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ABSTRACT

The impact of developments in work organizations on the skilling process in Denmark was studied through a macro analysis of available statistical information about the development of workplace training in Denmark and case studies of three Danish firms. The macro analysis focused on the following: Denmark's vocational training system; the Danish labor market; industrial relations; the Danish system of continuing training; and welfare and dualism in the Danish system. The case studies focused on the following: structured continuing training at a Danish engineering plant in a volatile economy; corporate and local continuous training strategies at the branch of a large Copenhagen bank; and the move from informal to formal training at an electronics plant. The case studies confirmed that Denmark's institutional system for vocational and continuing training makes it easy for labor market parties to enter into social contracts on continuing training. All three firms studied have changed their organization of labor to cope better with the economy's volatility. Two of the companies had compulsory frameworks for continued development of workers' qualifications, whereas the third used continuing training to reorganize production and subsequently downgraded continued development of qualifications until only new staff members received training. (32 references) (MN)

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ED 412 392

CEDEFOP Document

The role of the company in generating skills

The learning effects of work organization

Denmark

European Centre for the Development of Vocational Training

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The role of the company in generating skills
The learning effects of work organization
Denmark

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FOREWORD

Numerous continuing vocational training studies at both the national and Community level, especially those carried out by CEDEFOP on continuing training policy in large enterprises, have revealed the expanding role being played by enterprises in the development of human resources. This trend - which some see as heralding the emergence of a new division of responsibilities between those involved in training and production - undoubtedly calls into question their existing relationship and respective activities.

These studies also imply that, when it comes to strategies for developing human resources within enterprises, formally organized continuing training is only one of the options available for generating the "new" skills and competences considered necessary by enterprises. There are now organizational models geared to providing apprenticeship opportunities by exploiting the training impact of work situations, thus enabling a dialectic to be established between "formal apprenticeship" and "informal apprenticeship" (via work organization and cooperation between employees in the production and innovation process).

While they may make converging structural trends apparent, these new organizational models take on different forms and need not necessarily have any general application. The considerable difference between the contexts in which these models emerge means an analysis needs to be conducted of the relationship between an enterprise and its environment if there is to be an understanding of how the organizational models fit into the social context and what the scope and limitations are in a transfer of such models.

The primary objective of the present series of studies being undertaken by CEDEFOP in nine countries[1] is to establish the impact of developments in work organization on the skilling process and, more especially, to pinpoint the links between these developments and opportunities for formal and informal apprenticeships. These studies also enable light to be thrown on the nature of skills and competences which can emerge in the context of new types of organization and allow assumptions to be made about the impact of these developments on training systems.

A twin track analysis is pursued below. At the **macro level**, an attempt is made to "reposition the enterprise in the chain of skill generation" and to provide an interpretation of the mutual links between initial training, continuing training, the labour market and industrial relations. At the **micro level**, the aim - based on enterprise case studies - is to throw light on the various aspects of organizational innovation, developments in skills and the on-the-job apprenticeship process, in particular work-based and work-influenced forms of apprenticeship and how they relate to formal apprenticeships. In each country, enterprises were required to have a "marked and relatively stable level of organizational innovation" to qualify for case study selection.

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[1] Belgium, Denmark, France, Germany, Italy, the Netherlands, Portugal, Spain, United Kingdom

The present report deals with both these aspects without necessarily looking at all the cases studied. These are the subject of an analysis examining how the macro level interacts with the micro level which is presented in the summary that concludes this report.

Finally, a cross-sectional analysis based on the national studies identifies the converging and diverging developments which emerge in relation to their social context, notes the impact of these developments on the training systems and raises questions in respect of social dialogue and training policy decisions. This analysis is the subject of the summary report on "The role of the enterprise in the generation of skills: the training impact of work organization", published in the CEDEFOP Document series.

Our warm thanks go to those responsible for the studies at the national level and to all the members of the research teams and companies involved in their successful conclusion.

Fernanda Oliveira Reis

Frédérique Rychener

TABLE OF CONTENTS

	Page
INTRODUCTION	1
Defining the problem	3
SECTION 1: THE DANISH SOCIAL ENVIRONMENT OF CONTINUOUS TRAINING IN THE FIRM	
Denmark's Vocational Training System	7
The Danish Labour Market	11
Industrial Relations	14
The Danish System of Continuous Training	19
Welfare and Dualism in the Danish System	22
SECTION 2: CASE STUDIES	
***BALDER*: STRUCTURED CONTINUING TRAINING IN A VOLATILE ECONOMY**	29
Introduction: "Structured Continuing Training" - a Strategy in an Industrial Context	29
Restructuring in the 1980s	30
Balder in a Volatile Economy: Flexible Stability	33
Working Groups: The Basis of the Strategic Pattern	39
The Genesis of "Structured Continuing Training"	42
Typical Series of Continuing Training and their Effect on "Structured Continuing Training"	46
The Internal Labour Market of Balder: Careers in a Firm	50
Future Challenges for Balder's Robust and Flexible Organization	56

Balder in Interaction with the "Welfare State" 59

A Continuing Training System in the Melting Pot: Competition and Cooperation Between the Local Training Institutions 60

The Alliance Between Technical Schools and Skilled Workers 61

The Alliance Between SiD and the AMU Centre 66

The Local Adult Education Centre 69

Interaction between Interested Parties and Institutions: Towards a System 71

***GLUM BANK*: BETWEEN HIERARCHY AND LOCAL CONTEXT: BANKING ADVISERS IN THE LOCAL BRANCH OF A LARGE BANK CORPORATION** 74

Introduction 74

Structured Training in Glum Bank 75

The Broad Main Path 76

Side Paths 77

The Branch Area of Herning 78

Changed Customers' Requirements 80

From Generalist to Specialist - and Vice Versa 81

Business Advisers 83

The Market and Competition 83

The Foreign Sector 84

Office-banking 85

From Generalist to Specialist? 86

Local Continuous Training Strategies 89

Branch Training Strategy 90

Staff Strategy 92

A New Perspective on Training 93

TORKEL : FROM INFORMAL TO FORMAL TRAINING 95

Introduction 95

The Workforce and the Local Labour Market 96

The Economic Downturn in 1985 97

From Assembly Belt to Self-Governing Groups (1985-1992) 97

Local Continuing Training 98

Establishing the Round Table 100

Transformation from Belt to Groups 101

Staff Cutbacks 102

The Shop Stewards and the Trade Union Organizations 102

The Status of Continuing Training Activities and the Transformation (1990-1992) 103

The AMU Centre 104

ISO 9000 104

The Plans for New Training Activities 105

SECTION 3: SYNTHESIS

Confirmation and Surprise in the Case Studies 107

The Role of the Company in the Production of Qualifications: What is a True Educational Environment? 110

Summarised Characteristics of the Training Practice of the Three Case-study Firms 113

Typical Characteristics of Firms which Constitute a True Educational Environment 121

External Conditions for Firms to be able to Function as Dynamic Training Environments 123

Technology and Markets or Local Environment? 126

LITERATURE 127

INTRODUCTION

Few observers would probably disagree that our epoch is one of great confusion. Things certainly are not functioning as they used to. Politicians and administrators in state and international institutions look for new models of comprehending the new situation. And the volatile economy is partly reinforced by their initiatives.

In this report we set out to investigate how "micro-actors" deal with the new situation and how they have been able to mutually adjust their strategies and their fight for social space to more or less promising avenues in certain localities and particular firms. This process of experimental search at the micro-level has by now been going on for more than fifteen years and our "micro-actors" in Denmark have certainly started to find new organizational and associational ways of coping with the new conjuncture. As the reader will learn a new "system" or "model" is gradually emerging through the way actors adhere to one another, and we think that their experience is very informative, maybe much more informative than most macro-structural models of general social science theories.

As it appears from our synthesis, we learned a great deal from the field that we had never imagined would be happening. We are thus grateful for having been able to make the observations reported in this study. We thank CEDEFOP for having initiated a study of how "micro-actors" throughout Europe are engaging in dealing with the difficulties of our time, and the possibility that this has created for discussing these adjustments comparatively. But we are primarily indebted to the firms and actors in the field from whom we learned that a new society is in fact emerging that on the whole is more capable of dealing and living with a volatile economy. We hope that this report captures a glimpse of the essence of the future which these splendid people are in the process of constructing, and that it will help state administrators and the EEC to work to their benefit.

In the Introduction we formulate the structural challenges facing the actors (firms and employees), as we see them. In Chapter 1 we try to evaluate whether the Danish institutional context helps the actors meet these challenges. In the following three chapters we investigate in detail how three different organizational units have dealt with each their particular version of volatility. Balder is an engineering plant, owned by a British multinational, which has developed high skill in relating itself to a customized market for valves, pumps and fittings. Then we investigate how a local branch of a large Copenhagen bank, Glum, has learned to deal successfully with the complexities of the modern financial sector. Finally, we closely analyze an electronics plant owned by a large Danish corporate group, Torkel, which has become famous for its changed work organization. The three names of the companies have been chosen from the Nordic Mythology and any resemblance with the official names of firms are coincidental.

The Synthesis is an attempt to evaluate whether these three firms match the criteria for "true educational environments" on the basis of a set of varying "world views"/"careers of work" belonging to different groupings of workers. We show that the Danish society still has many problems to solve before it has adjusted to the new times.

The studies were carried out during 1992. James Hopner Petersen has conducted and submitted the case-study reports on Glum and Torkel. Peer Hull Kristensen is responsible for the study on Balder and the remaining part of this report. Marianne Risberg has been of great help in preparing the manuscript for publication.

Copenhagen, July 1993

Peer Hull Kristensen and James Hopner Petersen

Defining the Problem

It is widely believed that in a volatile economy, enterprises and workers are increasingly dependent on their ability to be flexible.

By deploying general purpose resources, multipurpose machinery and well-trained workers, enterprises reintegrate conception and execution and develop "structures which blur hierarchical distinctions within firms, the boundaries between them, and the boundary between firms in a particular area and the public and private institutions of the local society" (Sabel, n d, p.3). In doing so they must abolish traditional Taylorist management styles and stimulate the workers to learn their job while executing it and/or ensure that the workers are engaged in a broad scale of further training in order to decrease transition time.

Workers, on the other hand, can no longer expect to be employed to do a specific task in a single firm for a lifetime, when products, firms and their boundaries are continuously changing. From their point of view a good strategy is to acquire skills to become employable or useful in a broad spectrum of jobs within an enterprise or for a broader group of enterprises (Sabel, ibid, p.4).

Contradicting the old conflictual habits between labour and capital, continuous training is a means by which they will both gain. The great virtue of the potential cooperation between the two traditional opponents is that each step taken by one of the partners helps the other, and therefore a cumulative chain reaction is possible in which the self-reinforcing mechanisms promise societies to be able to transform quite rapidly from the old Taylorist to the new flexible and skill-intensive manufacturing regime.

But - and there is a strong but - this virtuous circle can easily change into a vicious one. The world is not made up of one worker and one enterprise. Investments in continuous training made by one enterprise may be harvested by another enterprise if some of the newly trained workers decide to move, for one reason or another. Increasing mobility - vertical or horizontal - is, as mentioned, a major reason why workers may engage in continuous training and carry the personal costs of an extra effort. Consequently, there is a danger that profits are not earned, where money is invested. A partial solution to the problem is to do further training on a broad scale. An enterprise may train so many that the loss of a few would do little harm and rather increase the general skill-level of the work-force. However, such a strategy will easily be detected and be counteracted by the labour force. First, if workers discover that they are trained in skills, which they are offered no or very few opportunities to exercise in their jobs, it may either destroy their motivation or increase their wish to move to another enterprise. Second, continuous training on a broad scale is typically connected to "on the job training" and is often dependent on workers' willingness to train colleagues (as in the relation between the journeyman and an apprentice). The simple question is: Why should the skilled want to transfer to the less skilled such knowledge and skills, which would only lead to a decrease in the bargaining power of those who do the training?

While our first observations promise a virtuous world in which the actions of enterprises and workers are reinforcing, our second observations promise that continuous training will be met with increasing resistance.

Societies - countries, regions, districts or groups of firms embedded in a specific "system" - which are able to provide an institutional system that can dissolve the vicious, and/or reinforce that the virtuous circle of continuous training will move fast in the direction of a situation, where the internal flexibility of firms and persons make society very adaptive to changing international conditions. We agree with those who propose that such institutional systems are at the core of the "regulatory regimes", which will succeed the combination of Fordism (Taylorism) and Keynesianism in which we lived after the Second World War. We do also agree with the point of view that as Fordism/Keynesianism was managed very differently by the "European welfare states" compared with the USA and Japan, it is possible to anticipate both a model where the world of flexibility and reintegration of conception and execution is restricted to a narrow circle of highly skilled firms and workers as one part of a dual system, and a model where institutions, organizations and associations combine into a system that offers all enterprises and workers opportunities to take part in these new dynamics, thus creating a new version of the European welfare state (compare Sabel, ibid).

Until now, a general theory has not been developed neither of the new regulatory regime of continuous flexibility, nor of its "welfare state" version.

Rather, we are gradually becoming aware of how different the "social effect" is in different nations (Maurice, et. al., 198, Cedefop, l990; 1991; Whitley (ed)(1992). Studies of Japan, for example, have, as every schoolboy knows, caused great attention concerning its differences to the former idealized concepts of industrial organization in the USA. To the institutional regulation of the vicious and virtuous circles of continuous training, some of the most famous and repeated institutional foundations of the "Japanese miracle" offer a very illustrative point of reference. The lifelong "nenko" employment practice (Kumazawa, 1989) has been an ideal framework for organizing continuous training within the group of large enterprises. By offering lifelong employment and careers with vertical mobility within a company, the large Japanese enterprises and their workers were believed to have been able to develop an ideal setting for the virtuous circle of continuous training. Until recently we have seen this nenko-system as one side of a dual system in which large enterprises and their workers exploited small enterprises and un-organized workers and could be said to live in this virtuous circle at the expense of the residual system. David Friedman (1988), however, has criticized this view of the system in a way that is of great interest to our present subject. His argument is that workers in the small enterprises accepted lower wages "as the price for training that might lead them to become independent factory operators" (Ibid p.35). Consequently, the two parties of the Japanese system function very differently. By continuous training in the large firms, workers are trained to understand an increasing share of interrelated parts and their interaction (as exemplified by quality-circles, horizontal rather than vertical communication systems, etc.) and can do an increasing number of jobs. However, this knowledge is of no use if your ambition is to become an independent entrepreneur. Employment in the small firm

sector, on the other hand, can be anticipated as a continuous training process, preparing workers for self-employment and entrepreneurship. Consequently, according to Friedman the SMEs in Japan have been very active in developing Japan's industrial skills and helped a large section of its labour force to be trained in the newest available technologies, which he argues are intensively connected to the small firms sector.

No doubt, Friedman's observations are very important to any explanation of why Japan could be said to be a representative of a "welfare version" of the new regulatory regime. If the SME-sector had not offered an attractive opportunity, the larger enterprises could have lost their interest in attracting young workers with an interest in undertaking continuous training and the famous experience of quality-circles. This also illustrates that the virtuous circle of continuous training may evolve in such a way that in order to be able to attract skilled workers, enterprises may be forced to offer schemes of continuous training. The latter may happen in some sections of industry, some segments of the labour market or in some regions more than others and be a potential source for the development of some sort of dualism in any system.

The Japanese example illustrates how complex the set of interacting causes effecting a virtuous circle of continuing training may be as a route towards a more flexible industrial organization. These interacting causes differ from one country to another. Nobody will, after the famous analysis of Maurice and his group, expect these interacting causes to be the same in Germany and in France. Probably it is easier to harvest the profits of their own investments in continuous training for firms in France, but would we not expect habits and traditions among the workers and their career-opportunities to cause a very low degree of involvement and motivation? Conversely, would we not expect enterprises in Germany to be a little hesitant to invest in continuing training as the workers are horizontally very mobile? On the other hand, would German workers not consider any new policy of continuous training as just another supply of options in vocational training, which they consider to be an integral part of a worker's life and career, so that they would not need an extraordinary motivation to accept it? With these questions in mind we will look into the Danish situation.

SECTION 1

THE DANISH SOCIAL ENVIRONMENT OF CONTINUOUS TRAINING IN THE FIRM

Denmark's Vocational Training System

Any comparison of the Danish educational system with the rest of Western Europe's, shows a number of differences. Denmark spends far more of its GNP on education than the average, and educational expenses per capita (age 5 to 24 years) are the highest among the EEC countries (Cedefop, 1984, p.26-27). The major difference between Denmark and the other countries is in the area of vocational and further training.

The vocational training system is based on a traditional apprentice system like in West Germany. However, from the Cedefop figures (ibid: 36-39) the Danish system seems to have developed into a horizontally more differentiated system of a larger number of steps to be reached during a life long educational career. It involves short one-week training schemes for unskilled workers at one end of the scale and engineering educations as further education for skilled workers at the other.

Even to the authorities in Denmark, the system is not easy to understand. Its administration is divided among several ministries (The Ministry of Education, the Ministry of Labour, the Ministry of Culture, etc.) and no one (maybe apart from Cedefop) provides a comprehensive overview of its totality of various parts. Its many components have grown out of a mess of historical circumstances, often initiated by social movements (as in the case of the folk high schools, the technical schools for apprentices, the evening schools, and others reach so far back into a distant past that their origin and current place in the system is only dimly known. The different parts are activated for different purposes as contingencies and conjunctures change at regional and local levels. It is often at this level that the different parts and components are brought together to solve complex problems of renewal in industry and culture, so that the "system" is defined differently in specific periods and in specific localities (see Kristensen, 1990).

For that reason, any national overview of the system may be misleading, as its plasticity and flexibility undoubtedly is very high. Lately, the many parts of the system have been more standardized and based on a common set of modules and levels, but at the same time the individual schools and their boards (in which the social partners are usually represented and dominate policy-making) have been granted more formal autonomy (see Nielsen, 1991).

The flow of students through the system shows important tendencies. First, the residual group of a cohort of youth, who - after 8 to 10 years of primary school - just leaves the educational system has been brought down to 11% in 1983/84 (Undervisningsministeriet, 1988) from a level of 50-60% in the 1950s (Mærkedahl, 1978). Still 25% of a cohort leave the educational system with no examination from vocational schools. The average years of education have increased from 13.39 years in 1976 to 13.95 years in 1984, that is roughly half a year within 8 years, primarily because girls remain in the system for a longer period than earlier (Undervisningsministeriet 1988: 48).

Among the students who continued their education after primary school in 1983/84, 32% went to the general high school (Almene Gymnasium), 42% to EFG-basis (the

first year of the reformed apprentice/school system), 8.7% enrolled as traditional apprentices and 6% embarked on other educations
(Undervisningsministeriet, 1988:13-24).

With 50% embarking on one of the two forms of apprentice education, figures have changed back to the 1965 situation, when these educations reached their former peak, while 1965-75 saw a dramatic drop in the proportion of these educations as the share of a cohort, who chose the general high schools increased from 10% in 1960 to reach its present level in 1975 (Mærkedahl, 1978:98) where it has since stabilized. From 1980/81 to 1983/84 the share of a cohort who enrolled at EFG-basis, alone increased from 36% to 42%
(Undervisningsrninisteriet, 1988: 39).

In 1983/84 the number of first year apprentices was 14,000 and the number of students beginning their second part of EFG around 21,000 (while the number embarking on EFG-Basis was 38,000 the same year) (Undenrisningsministeriet, 1988, bilagstabel I.I.). This substantial number spreads out into an abundant number of crafts - traditional and modern - as the craft educational system has been able to adapt its institutions to new technologies and to include new "professions" as they have emerged.

However, there are a few main areas, which dominate the vocational training system at the secondary level:

Table 1: *Relative importance of different main areas of vocational training, percentage distribution of students.*

	1976	1980	1984
Commerce and office	39.3	44.0	45.2
Iron and metal	24.0	21.9	23.1
Chemistry	1.2	0.7	0.6
Building and construction	19.5	16.6	11.3
Graphical industry	2.3	2.0	1.8
Services	3.2	2.8	3.0
Food sector	5.5	6.4	8.5
Farming	1.4	2.1	2.5
Transportation	1.1	0.8	1.3
Health	2.5	2.8	2.7
Total	100.0	100.0	100.0

(Note: Calculated from Untervisningsministeriet, 1988 Table 3.i.7. The table includes apprentices, the second part of EFG and a number of technical educations very similar in level to the EFG).

It is impossible to give a proper overview of the vocational training system. Until 1990 the iron and metal trade included more than 40 different crafts, building and construction 24 different crafts of which 12 alone are in wood manufacturing. EFG-educations in the service sector also include craft-educations, oriented towards the textile and garment industry.
The complexity of the vocational training system cannot be understood as a result of central educational planning. It has developed gradually since the beginning of the 19th century. The major wave came from 1870 onwards as crafts set up technical schools to protect themselves against the tide of liberalist reform, which had prohibited the guild system and its regulations of labour and business. Between 1870 and 1930 local craft organisations initiated and organized 340 technical schools throughout the country.

These local technical schools taught in broad theoretical areas such as drawing, construction principles, mathematics, physics, etc. while most crafts nationally had organized central schools around the turn of the century, to which apprentices turned by the end of their training to get craft-specific theoretical and practical training and do their "svendeprove" (practical test to which a person is submitted at the close of his apprenticeship). By 1910, the National Craft Organization succeeded in getting public support for setting up the Technological Institute of Copenhagen. At that time its primary aim was to conduct experiments with the new electrical technologies, to orient these towards the needs of crafts and SMEs and to provide further training for journeymen and masters. However, the institute soon expanded its orientation and scope, working with all sorts of technological problems in relation to crafts and small enterprises, gradually both making inputs to change vocational training in the craft schools with changing technologies, and doing experimental education when new "trades" arose with new technologies, e.g. electricians, car mechanics, etc. Gradually, these educations were institutionalized into the normal apprentice and craft educational system. Even today Technological Institutes and some of the institutes under The Academy of the Technological Sciences (ATS) have as their primary task to develop new courses and educations for the vocational school system. This type of input has been very important for the institutionalization of continuous or further training and has played an active role in the "system" since 1907.

The first decades of the 20th century were also a time in which the crafts organized their own engineering education (the "Teknikum" engineering education, the "building constructor education" etc.) to offer journeymen possibilities for "third level" educations. Soon this engineering education, which until 1960 only admitted journeymen with finished apprenticeships as students, ousted the academic education of Civil Engineers both in number and by employment in industry.

The state has been engaged in the financing of the vocational schools since the first apprentice law was passed in the 1880s. Since then administration, continuous renewal and major reforms have been a complicated interaction between three different levels:

1. *Local level* where decisions are made by local representatives from unions and employers together with the schools,

2. *Corporate national level* where relevant parties from unions and employers, schools etc. decide about the future development of the education within a specific craft, and
3. *State level* where different parties are engaged in coordinating the local, the craft level and other initiatives into some sort of a system.

Of course, the interaction between these three levels produces a continuous flow of changes - major and minor - of which we will only mention a few.

One of the major changes came with the 1958 apprentice law, which increased the demands (in number of weeks) on how much school education apprentices should have and changed the evening schools into day schools. This reform was effective from 1964. The reform also included more centralized demands on the education in specific crafts at the local level, with the implication that a centralization of the local schools was necessary (Mathiesen, 1979:113). Another major argument behind the l958 reform was that in order to increase the mobility and flexibility of skilled workers, apprentices would need a higher level of general knowledge, making it easier for them to shift job. Both more general knowledge and more specific training in specific crafts created a major demand on the schools, which most small technical schools were unable to meet. Consequently a geographic relocation of the vocational schools took place. Today, theoretical education in certain small crafts is only given in one of the regional schools, while some larger crafts are represented in all schools. Specialization has meant a dramatic increase in the number of specialized crafts, as their number increased from 90 in 1953/54 to 160 in 1964 (Mathiesen, 1979:174). One of the latest reforms (from 1990) aims at reducing the number of specialization to something more manageable (see Nielsen, 1991). Most regional centres have now a technical school complex with very close relations to the region's social partners.

With the growing amount of "specialized crafts" the idea of giving a more general introduction, some basic training, for a group of specialized crafts has continuously been discussed since the 1950s. This problem found its solution in the EFG-reform. After some experiments in the late sixties the EFG-reform of the apprentice system was carried through in the beginning of the seventies. Its basic principle is that instead of signing an apprentice contract with an employer, the student now starts with a basic-year at one of the regional technical schools. The basic year gives a general education within one of the areas listed in table 2.1. By the end of the basic-year the students must find a job as trainee to gain practical experience and start a practically oriented education very much as if he/she had enrolled as a traditional apprentice. This second part takes between two and three years. The entrance to this second part has proved to be difficult. For example in 1983/84 only 43% of the first year EFG students continued with the second part of EFG (Undervisningsministenet 1988:24). A major part of the rest, however, fulfils some form of vocational examination; many by enroling in a traditional apprenticeship contract. In the three major EFG areas (commerce and office, iron and metal working, building and construction) about 70% of the students starting at EFG leave the educational system with one form of vocational examination or another (Ibid 28). Though the shortage of trainee jobs is deeply felt and is a recurrent theme in the press, the shortage is to be seen in relation to the dramatic increase in the number

of EFG students. In the eighties the number of trainee jobs/apprentice contracts has continuously increased in order to enrol an increasing share of a cohort young (Undervisningsministeriet, 1988:40).

Complementing the vocational training system, Denmark has an institution called "Arbejdsmarkedsuddannelserne" (labour market educations). Today these constitute a whole complex of educational tasks:

1. Courses for specialized workers (Specialarbejderuddannelser), started in 1960.
2. Further training for skilled workers (Efteruddannelse), started in 1966.

And since the beginning of the crisis in the seventies:

3. Job introducing courses for young unemployed.
4. Courses for long-term unemployed.
5. Retraining courses.

These courses have grown rapidly since their introduction in the sixties. The traffic through these labour market educations has reached a very high level. In 1983 99,300 different persons and 161,018 trainees started on a course. The difference between persons and trainees indicate that many attend several courses in order to reach certain skills also within the same year (AMU Direktoratet, 1983:23 cont.). This means that for every 1,000 workers, 89 different persons or 145 trainees enrolled in labour market educations in 1983
(Ibid:29-30).

The Danish Labour Market

The strong Danish vocational training system has developed in a reinforcing helix through the way employers and unions are organized. Contrary to most other Western European countries, the Danish union movement builds on old craft guilds and originally it followed the occupational divisions of crafts. By the end of the 19th century this combination of craft traditions and the emerging socialist ideology was a major cause of why the unionization rate in Denmark became one of the highest in Western Europe. The strength of the union movement forced employers to be able to fight back along the same organizational divisions, and consequently helped to shape a whole system of associations divided along lines following the old crafts.

Strongly connected to these traditions is the concept of "journeyman" as a highly mobile worker who can travel from localities of declining to localities of increasing demand for certain skills, and in doing so continuously meet new challenges. The Danish journeymen saw themselves as connected to one European labour market, where especially young journeymen would travel to distant places as a way to gain further training and learn about new technologies. In Denmark, journeymen, even

in the beginning of the 20th century were active in organizing rules and schemes to help this traditional pattern to continue. For a long time journeymen who married before they became self-employed masters, and thus became less mobile, were seen as traitors to the very idea of a journeyman.

By setting standards and developing national definitions of skills at a corporate national level, employers' associations and unions have now cooperated for more than a century in creating a system, where horizontal mobility is inscribed into the very bones of the labour market for skilled workers.

In most occupations for skilled workers a combination of centrally defined levels and locally negotiated wages helps the skilled workers to balance their wages with the local demand for labour. For that reason it is possible to have fairly high wage differences between different regions among skilled workers, but within the same region the differences are small partly because the unions regularly publish detailed accounts of wages in different parts of the country. Consequently, as long as skilled workers are "blue collar workers" they are closely connected to a union system and part of a wage negotiating system in which shop stewards at individual firms play a major role. For that reason the internal labour markets of enterprises, seniority etc. play a smaller role than in for example France. Downgrading in the case of mobility usually occurs very rarely.

In general, blue collar workers work at time rates which illustrates that they can be laid off on a very short notice; shorter than in most other European countries. Horizontal mobility thus also is an effect of employers being less responsible for their workers. A third element, which plays a role in establishing this balance between internal and national labour markets is that Danish unemployment benefits are among the highest and with the longest duration in Europe, and therefore is stimulating mobility.

If a skilled worker moves vertically to become a white collar worker his situation changes dramatically. A specific law for "functionaries" regulates the rules of white collar workers, who for example gradually increase their rights according to a principle of seniority. White collar workers normally negotiate salaries personally and not through shop stewards (and are typically paid monthly), but are often informed by their professional associations about salaries in different jobs in different parts of the country.

For a number of years now, the skilled metal workers' union has tried to combine the two systems for their own members and they seem to have been quite successful in convincing a number of employers to change the system. This change, of which we have only very few reports, has been deeply connected to the increasing involvement in further training among metal workers with the transition to computer based technologies.

It follows from what we have said so far, that the skilled workers through their unionization and their vocational training system have been able to cooperate with employers to define a system, which has been very ideal. Though Denmark until the end of the Second World War was the most highly unionized country, the relations

between employers and unions were among the most peaceful in the world (see Galenson, 1955). One of the primary reasons for that was undoubtedly that the skilled workers were offered better opportunities measured by careers, wages, and educations than in any other Western society.

For a long time, however, the situation was very different for unskilled workers. Consequently, Danish unskilled workers organized as one - or rather two union(s) (one primarily for men and one for women), and since then the unskilled workers' unions have continuously been fighting with the skilled workers' unions for space in the labour market, though they both belong to the same Social Democratic labour movement.

This fight for space was important when the unskilled workers' union in 1940 initiated "Work Technical School". Over three years, this evening school in autumn and winter 2x3 hours a week, corresponding to 144 hours (Hansen in Breinholdt, 1987:16) offered primarily unskilled workers a chance to get the further training needed for competing with the skilled workers for jobs. In those days the areas were primarily within building and construction, iron and metalworking, transportation and textile and clothing. When the law on vocational training was passed in 1960 "Work Technical School" had 100 "branches" around the country with a total of 3,000 students (ibid). The law facilitated the establishment of "Specialized worker Schools" throughout the country. In 1983 24 of such schools had been created and the unskilled workers' union had changed its name to "The Specialized Workers' Union" in the meantime.

The specialized workers' schools (today called AMU-centres) offer training opportunities to those who never got a vocational education, and the so-called residual group has thus a chance in this system. In some areas the sequence of courses over several years for specialized workers can be as long as to equalize an apprenticeship (for example in the foodstuffs sector), in others, as in iron and metal, general agreements between unions and employers' associations make it possible to evaluate if a semi-skilled has gained so much work experience and number of courses, that he/she can change status to a skilled metal worker.

Maybe it is an indication of how successful the semi-skilled workers have been in their educational competition for jobs, that today (1983) 28% of the persons participating in courses at the "specialized workers' schools" are craft workers, while the corresponding figure in 1973/74 was only 7%.

The official intentions of the courses are to give a rather short introduction to specific operations of, for example, specialized machinery. This includes both the introduction courses for e.g. unskilled sewers and courses aiming at introducing students to new technologies. Courses are composed of modules, each lasting from one to three weeks. Theory is related to the practical training, but the courses also include some general education. Each course can quickly be adapted to changing technology, changing demands of industry or in relation to local labour market conditions. These courses have gradually evolved to include almost all areas of economic activities, but the largest areas are still iron and metal working, transportation, and building and construction, which count for 65% of all activities

(Hansen, 1987:18). Traditionally, the state has paid practically all expenses connected with labour market educations and the trainees receive a weekly wage corresponding to unemployment relief.

Consequently, the semi-skilled workers have developed a strong weapon to compete with the skilled workers for space in Danish industry, and often the divisional lines between the two groups of workers are rather arbitrary, and in many statistical records unskilled and skilled workers are categories rather according to union membership than to their "true" vocation. In Denmark, there is a highly neglected but very important traffic of persons, who change membership from one union to another if they shift from one job to another within an enterprise or to a similar job in another enterprise. This traffic in changing union relations is not only one from the specialized workers to the skilled unions, the traffic is almost just as intense in the other direction. As we will soon demonstrate these paradoxical patterns are both the cause and the effect of what has gradually occurred in Denmark: the unions compete among each other by putting pressure on their members to engage in continuous and further training. This competition explains why the trade unions have not had as rigid effects as in Britain.

One of the most telling examples of the successes of the training strategy of the Specialized Workers' Union is that they have recently completed a few structured educational expirations combining both practical training and teaching into a two year education. In such fields they have come close to institutionalizing apprenticeships comparable to the skilled workers.

Industrial Relations

Enterprises operating in labour markets in which skilled workers are highly mobile are forced to offer competitive conditions in terms of wage, continuous training, and organization of work, so that they are able to attract workers carrying these skills. We have elsewhere argued that this selective mechanism explains the historical development of particularly the Danish engineering and metal industry, in which we found (in cases studied in 1985, see Kristensen, 1986) a widespread industrial organization based on craft principles. Danish factories are typically characterized by a very heterogenous organization of work covering very boring and repetitive working-cells operating besides working cells in which complicated manufacturing tasks are performed in small and often changing batches. On the whole, conception and execution are integrated by skilled workers working at the operative level together with semi-skilled workers, and the technocratic apex of enterprises is very small compared to other nations[1]. As a result,the work force and especially the skilled workers are allocated significant power.

We have elsewhere argued (Kristensen 1986; 1990 D) that the factory is rather a system of mini-factories or sub-contractors, where the individual skilled worker operates with high discretion. In his cell of machinery and sometimes by the help of unskilled workers and apprentices, he integrates planning, programming, setting, operation, maintenance and even suggests new investments to further the

productivity of his small "shop" within the framework of a workshop - most often specialized from the other workshops in the factory by type of process. The workshop is being run by a mastercraftsman who has been selected and exerts authority on the basis of his professional skills. Business in this system is normally conducted through a complicated system of negotiation on where to produce what items, if production capacity exists, and time schedules, involving several layers of the organization (the production workers, foremen, shop-stewards, the production manager, the sales- and sometimes a marketing manager).

If trust is high and the reciprocal relations are maintained, etc., the system is very efficient as everybody is responsible for each their high-discretion area and is able to act immediately. If, on the other hand, a managing director wants to impose a change on the internal organization, neglecting the complicated routes of negotiation, damaging reciprocal relations or devastating trust, individual workers or foremen can respond simply by "working according to the rules" and only act on explicit orders. This simple reaction carries drastic effects. Exactly because they have previously been operating their jobs with high discretion the firm has benefitted economically from this organizational design, being able to save technicians and administrators compared with foreign firms. The firm may simply find itself in a situation where managers are incapable of issuing such orders due to lacking knowledge about the production technologies and procedures.

Second, in the Danish welfare state combined with a regulated labour-market comprising a complete system of general and union specific, national and local agreements with factories of workers organized in unions for different crafts, for unskilled workers, for genders, etc., much power rests in the hands of shop stewards, as they are among the very few who acquire the experience needed to work with the "system". If trust exists, the shop-stewards (and every union represented at the factory has their own shop-steward) have the knowledge and power necessary to make this whole complex collaborate with the firm in mobilizing resources. He may do what is needed to ensure the formal acceptance of letting workers work overtime, ensure that the workers are undergoing further training to help the firm install new technologies, and even mobilize political alliances needed to obtain resources from different sources of the public sector. He may use his local knowledge of the labour-market to recruit workers who possess the required skills and who are capable of adapting to the culture of the enterprise. He may creatively use the rules of the "book", or even forget the rules of the "book" to make new adventures possible for the firm. But if trust is low, reciprocity not sustained, traditional patterns of negotiation neglected, and managing directors persist on sticking to the strategy chosen, it will take an excellent manager to escape from the traps that shop stewards can organize: to be cheated in wage-negotiations, to be cut off from keeping his promises to an important customer as overtime showed to be impossible, or to be proven to have broken formal rules, which may bring the manager for the Labour Court [2].

For these reasons the autonomy of the skilled workers is almost self-protective as they can use this autonomy to show that the economic benefits of accepting autonomy are high, while losses are sure to be a first reaction if the factory is reorganized against the principles skilled workers enjoy.

Skilled workers' ambitions are, among others, to exercise and improve their skills by employing the most modern and best production equipment and machinery. Thus, in Denmark there has been a pressure to have new CNC machines installed, not least to allow for more complicated and critical production tasks (Kristensen, 1990 D). In firms where managers allow workers to participate in the design and further development of their own workplace (as in for example enterprise I, in Kristensen, 1986) the workers use their profound knowledge of the equipment and what can be done to increase the productivity of machines and machining-groups to suggest new investments. Consequently, skilled workers who actively engaged in improving their own skills exert pressure on the firms for continuous modernization of the factories in which they work.

Apart from being an integrated aspect of the working ethics of skilled workers, interest in new technologies is also created through pressure brought about by the competition among different unions for obtaining the right to organize certain jobs. As the right to organize a specific job is very unclear due to many strange and even contradictory historical compromises, rumours about the introduction of new technology prompt shop stewards to mobilize their members to attend courses and further training in the operation of the new technology in order to legitimize claims for the right to organize those workers who are going to operate the new machines.

In this way several workers from different unions are often well prepared for taking part in the introduction of new technologies when investments are in fact made. Hence, they are involved in the very challenging process of continuous training by direct experience with the trial and error processes which usually emerge during such an introductory period.

But this way of making investment decisions has several implications. First, plans and tasks for new machinery are fairly unclear when installed, so nothing is more natural than to hand it over to the "specialists" on the factory floor, who possess the best skills within the firm for starting experiments. Consequently, new technology enforces high discretion jobs on the "floor". Second, to protect themselves against investment-failures, managers will try to buy universal machinery which can be used for a broad range of tasks. Third, the combined effect of this reproduction of the strategy of flexible specialization within the firm guaranteeing the skills of the workers gained through experience with these new machines, is what many firms of the industry demand. Hence, such decisions serve to protect the horizontal and vertical mobility of the workers.

Merging craft-principles with the principles of the modern factory, we have shown, has had great impact on the function of both. One effect has been high discretion for skilled workers at their work-place among machines, typically of a universal character rather than specialized. Just as important, and even more neglected in Danish industrial sociology, is the fact that for almost a century the craft-educational complex has tried to incorporate any new fashion in principles of factory organization and management. As a result, skilled workers have a large variety of educational schemes to choose among and different careers to pursue[3]. Rather than destroying the craft life-pattern - apprentice, journeyman, and master - the modern factory has elaborated the content and meaning of this life-cycle. As a

consequence, industrial factories and enterprises, rather than structuring the population into classes, are fields of class transcendence. Working-class positions of skilled workers constitute educational phases of life, rather than structural positions. For that reason, the organization of factories and its management are based on the experience needed to manage skilled workers. In this organizational field, however, the normal dichotomy between management and the workers' collective (Lysgaard, 1967) breaks apart and creates a field in which competitive strategies are pursued and where the art of coalition building does not conform with our theoretical expectations.

First, the openness of careers and high discretion in jobs on the factory floor do not combine to determine one typical management style, on the contrary. Two very different routes to managerial or technical white collar positions illustrate the diversity of personal aspirations and of relations towards the labour-force which, in part, determine the social psychology of managers.

The first route follows from the fact that career-patterns have been established and are open. For that reason our first ideal-type person enrols as an apprentice, looking at the factory and the surrounding craft-educational complex from the perspective of personal advancement. He is chasing jobs on the factory floor with a high degree of challenges and prestige and looking for evening courses and additional educational institutions, which might speed up his career-opportunities. To him the strong position of the unions, group solidarity and the workers' collective actions against management, attempts from shop stewards to negotiate comparable conditions for good and bad jobs, to allocate workers to different jobs in a fair way, all seem to be working against his personal ambitions. For that reason he becomes increasingly isolated from the collective, and feels that he fulfils his goals in spite of the prevailing rules, roles and values. When his ambitions are fulfilled and he reaches out for some kind of management position after some years' experience as a skilled worker, he has inevitably become isolated from and suspicious of the collective of workers, which he is now going to manage; he will look at the new world of management techniques and -methods with admiration and find among them such techniques that will enable him to wage war against the workers. In his opinion, they need to be controlled, because he - for good reasons - suspects them to use any occasion to find ways of cheating him. Therefore, he is informed about labour-agreements at all levels to ensure that he will be able to frame his workers and shop-stewards in a position that will make them, and not him, commit the formal mistakes, if the situation comes to a head and is brought before the Labour Court. In short, he is extremely apt at playing the game by which skilled workers try to select among managers, and the game itself will confirm expectations and reinforce his psychology as a manager.

The other route is almost in every aspect contradictory to the first. Our second ideal-type person is typically a skilled worker whose primary ambition is to use his job to stay in a field which satisfies his great interest in technology. In his job, high discretion is a precondition and he sees the craft-union as the protector of this right. He may be strongly engaged in union politics to support any pressure on management ensuring that he and his colleagues are guaranteed the right to further training and the right to carry out the implementation of new technologies. He feels

personally obliged to ensure that his colleagues on the factory floor are offered further training and are involved in the introduction of new technologies. Consequently, he is, even if it entails private sacrifices, the first one to respond to any request from his shop-steward to attend further training, to be involved in the instalment and introduction of new machinery and equipment, also because he enjoys working with new technologies. He may even join evening classes during leisure time to further his understanding of a new type of technology, for example to learn programming in machine-coding. To his fellow co-workers, he will function as a teacher and a competitor, to whom they can turn with a problem and whom they will tell of solutions to problems they might come up with. This friendly co-operation in the shop confirms that he is right about the skills and potentials of his fellow men. In front of management and the technical staff he is the hero, as he will always be able to beat the "white collars" in the field in which he is presently engaged. Thus he is symbolizing the protection of the organization of work through craft principles. However, managers have strategies towards such persons. Both from fear of losing the competence he has gained, if he accepts a better job in another firm, and because they want this competence to become part of management's ability to control the factory, they may make him an offer that he cannot refuse. They may tell him that they will advertise a job for a management position covering the tasks he is currently performing and if he applies for the job, he will get it. If he does not, they will be forced to redeploy him in a less challenging job in the factory. In short, he becomes manager and has to leave the workers' collective, the protection and opportunities which his union and shop-steward gave him and the game among fellow men, which he enjoyed so much. As a manager his heart belongs to the workers' collective, and he wants to behave in a way which does not reshape the conflicts, start the jokes and rumours which he only knows too well will be provoked by a standard management role. For the management group, he will make suggestions which depart from their wishes and from criticism raised by the workers' collective. He will initiate changes and shape projects that will ensure him the participation and cooperation of the factory floor, and be able to cooperate informally with shop-stewards. By selecting his projects in this manner, his successes will confirm his expectations and help to reinforce the psychology by which he manages.

Of course, these two ideal-type management personalities, styles and strategies are just two poles in a much fuller and more varied spectrum. The implications of such differences among the managers, however, are far reaching. The split between what we could call universal ideals of management techniques and methods, the universalized principles of factory and enterprise organization and idealized concepts of strategy and structure for industrial firms on the one hand, and craft organization on the other hand, is no longer a split between managers and workers, but rather an intrinsic conflict of the functioning of both the management team and the workers' collective. A continuous competition has been revealed within the enterprise among two - or most often more - coalitions, neither of which respects the traditional patterns of coalition behaviour which in organization theory have been connected to the advancing of departmental interests in the competitive game for resources.

Thus, the firm has institutionalized a competitive game among two groups capable of suggesting very different types of investment-projects, reorganizations, etc. which they will seek to advance whenever the shifting contingencies among top-mangers and boards allow it. And we have shown that contingencies will often change - for many internal and external reasons. In effect, any factory studied will be build through a long series of small incremental investment decisions, often mutually incoherent, a series of modifications through which the two management types and the two groups within the "workers' collective" have tried to beat each other. Consequently, the factory resembles many principles in the way different work stations are organized differently and in the way new management principles merge with inherited practices, etc.

One effect of this is to establish within the factory a more or less concealed hierarchy of less and more complicated jobs, and as the worker gradually moves from a less to a more complicated job he is continuously trained to be able to integrate conception and operation in increasingly difficult tasks, without even leaving the workers collective. Whether these workers' collectives become high-trust settings in which workers as good colleagues help each other out, or they become low-trust and competitive fields in which one worker carefully protects his position by keeping his skills secret, we would expect to depend on the types of coalitions that are established in relation to the two different management types mentioned earlier.

So far our discussion has revealed another aspect, too. By breaking with the normal way of looking on divisions among groups and classes, we have suggested new dividing lines between agents competing for dominance at the factory floor. This rivalry, however, may stimulate each of the competing agents to build coalitions in a wider system, whether this is at the level of the firm, the corporation, the local community or even the larger national system. We expect this coalition building to be of profound importance to the way in which the system of continuous training is actually functioning in any local context, which thus will translate the larger Danish formal "system" into its own context.

The Danish System of Continuous Training

It is very difficult to define a situation in which a Danish citizen, determined to pursue a strategy of continuous training, will be unable to realize such desires.

First, the publicly financed educational system offers a number of short and long-termed third level, full-time educations qualifying for positions as technician, (teknikum) engineer, EDP-assistant, etc. (Undervisnings-ministeriet, 1988). As an example, 6.6% of the EFG-students and 4.5% of traditional apprentices within the engineering and metal-using trades continue with such third level studies within five years after their initial training.

Second, a much more important part of the system of continuous training is such educations, which can be attended during evenings (in Business Schools,

Commercial and Technical Schools). Educations such as HD, Correspondents, Merkonom, Datanom, Teknonom or single subjects within these educations offer an opportunity for further training independently of whether people are employed or unemployed. In 1988 the number of full-time students was almost 24 000 within this area alone (Hedegaard, 1990:34).

Third, there is a vast amount of courses and modules within the so-called Labour Market Educations, already mentioned, where in 1983 almost 100,000 different persons started a course.

Fourth, in most parts of Denmark it is fairly easy to establish evening schools in most subjects, including such training as use of computers, etc.

Fifth, the classical Folk-high-school in Denmark offers people the opportunity of concentrating on subjects of interest for shorter or longer periods.

In principle, the possibilities mentioned are funded by the public and are open to all if demand on merits are met. But the capacity of the schools and institutions that teach these educations and courses may be limited. The relative small fees may constitute an obstacle in certain cases, but it is almost impossible to imagine a person facing a situation in which all possibilities are exhausted at the same time.

Membership of a union or a professional association, whether you are employed or unemployed, increases opportunities, as do of course in-house courses for employees; but more than half the opportunities for further and continuous training are available for all through public financing (compare Table 1 in Hedegaard, 1990:12).

On the other hand, enterprises may be able to stimulate much "formal" continuous training by just reimbursing the small fees, which students pay in order to follow evening courses in business schools, commercial or technical schools. They may calculate, that while public funds pay all the training expenses and the major share of their workers' wages (equalizing unemployment benefits) while attending courses at the Labour Market Educations, their enterprise may be able to increase its technological and other capability very much by just paying the small difference between the normal wages and unemployment benefits and reimburse the travel costs for workers, who have to travel to another region for attending a course. If managers and shop stewards are able to cooperate in an enterprise, such interactional relations to the larger system of continuous training can be very helpful, as they may support adaptation to new technologies or reinforce internal mobility in the enterprise, as the publicly financed schemes may provide some of the basic training for people who want to move from less to more complicated manufacturing tasks at the factory floor, or for people who want to leave the factory floor altogether and become a technician or an office clerk.

But managers and shop stewards may cooperate in the larger context of local politics too. They may try to influence through their mutual membership of unions and employers' associations the local technical, commercial or specialized workers schools to create the local system of training. If people at the local level are very

active and able to combine forces, they may be able to set up a local version of the national system, taylor-made to support local industries and the careers their workers try to pursue.

An interesting example is Herning's Textile school. Initially it started in 1945 initiated by the local employers' association as one of several attempts to change the image of the area away from cheap to high quality products. The employers were eagerly supported by the local trade union which, for a long time had wanted a textile folk high school. The national institution, "Work Technical School", mentioned earlier, provided an ideal framework for creating an evening school. Its courses ran over 2 years counting 60 students, mainly recruited from experienced weavers, knitters and masters (though nationally the institution was thought to be primarily for unskilled workers). After the first two years of general education in theoretical and practical matters, it was possible to follow courses in different specialties for another two periods.

In 1968 employers in Herning took advantage of an opportunity to fuse their evening school with the garment school in Copenhagen, and a large day school was established in one of Herning's most beautiful shirt-factories. In the early seventies the school was adapted to the EFG-reform and its related financial system. The school educates around 100 students a year, and it has built a whole complex of educations, where the student gradually can build his or her education on a sequence of modules, so that the student can go back and forth between years of studying and years of gaining practical experience. Entrance criterion is the basic EFG-education. The lowest level educations take two years and the student becomes either a knitting, clothing, textile or a dye works operator, who can operate, set up and maintain the relevant machines. On top of this level, oriented towards middle managerial positions in firms, are another two years of education qualifying for jobs as clothing or knitwear assistant. After an additional third level of one year's duration the students are qualified to undertake jobs as either clothing or knitwear technician. The final step on the educational career ladder is the fourth level which lasts two years and qualifies for jobs as industrial designer (Knudsen, 1979; Hovedvejlerderudvalget, 1985). Since 1985 a new line has been added on top on the dyer education, which can now gradually lead the student to an education as "teknikumengineer" in chemistry.

In the eighties Herning succeeded in attracting a Clothing Technological Institute which was located close to the school. Aside from doing consulting for firms, this institute through experiments with new technologies works on developing new courses for the school and arranges short courses in further training for firms in the region.

A similar story can be told about the way the Salling furniture makers have collaborated with their schools in Skive to construct a system that supports training from the lowest to the very highest level of vocational training within furniture-making (see Kristensen, 1990 B).

Today, most towns serving as regional centres, possess a vast amount of educational institutions, that can serve adult- and further training. The typical pattern is such institutions as:

- AMU-centre
- Technical School
- School for Commerce and Trade
- Adult Educational Centre (VUC)
- Day-high-schools
- Folk-high schools
- Evening schools

With the general rules of public support to compensate for wages, transportation and accommodation, the local possibilities for integrating these institutions into favourable systems for unemployed, employees and enterprises are vast.

Such local translations of the national vocational and further training system create in interaction with local enterprises and local labour markets a very active system for continuous training, and they may be able to combine into very active systems in the present contest of a volatile economy.

Unions and employers' associations in Denmark have recently taken new serious steps to increase the role of further training for employees and enterprises. In the 1991 general agreement many sectors agreed on new rules. Within the "factory-sector" it was agreed that workers are entitled to an annual week off from work to undergo further training. The parties further agreed to encourage their members to be active locally in planning further training; and both employer and employees have the right to initiate a negotiation on the planning of further training at enterprise level.

Consequently, the Danish system of continuous training, which on average seems to reinforce the virtuous circles of further training and to dissolve many of the potentials of the vicious circle, may in some regional contexts soon enter a new phase, in which enterprises, unions and institutions combine forces to create very active local systems for further training. The following case-study on Balder illustrates this process. In other local contexts the system may be managed much more passively, and even - we know of at least one example -managed in a way which impedes the mobility of the workers by forcing such systems to serve a dominant local enterprise.

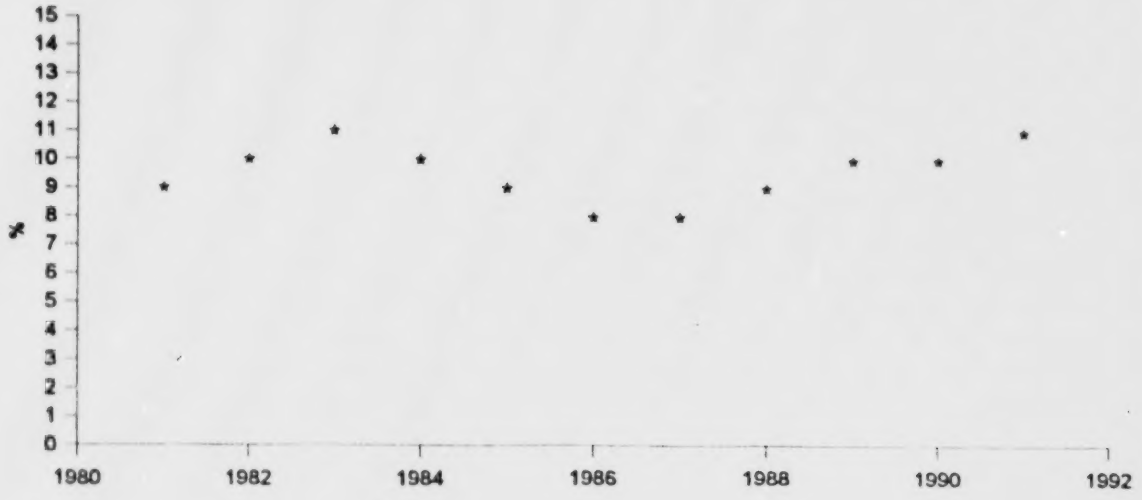
Welfare and Dualism in the Danish System

We have argued that institutions and social dynamics combine to make it easy for workers and enterprises to develop a regime of industrial flexibility in Denmark. These forces combine through a complex interaction among different groups of workers, managers and shop stewards within firms and between these groups and different, partly competing, vocational institutions in the regional and national

environment. Some critics may say that we have painted the contours of an almost ideal system seen from the chosen perspective of industrial flexibility.

However, as mentioned in the introduction, a few figures on industrial unemployment demonstrate that this "system" is far from being an ideal welfare society version. Since the first oil crisis, Denmark has had a larger number of unemployed than any other Scandinavian country and throughout the eighties the situation seems to have grown worse apart from a period in which international business cycles compensated for the missing growth dynamics of the Danish economy:

Figure 1.1: Total Unemployment as percentage of labour force.



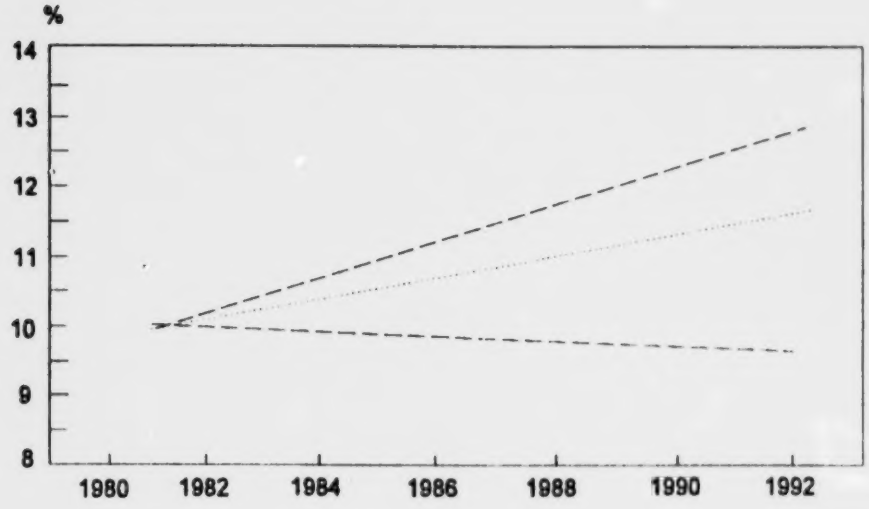
Though the unemployment figures are high, the situation of the real world is even worse. Without early retirement and public employment schemes unemployment would be considerably higher. The figures thus strongly indicate the evolution of a dual version of the flexible industrial regime.

In favour of interpreting the system as evolving towards a dualistic labour market speaks other indicators, too. During the high-growth period from 1983 to 1987, the Danish system quickly evolved a "paradox-problem", in which employers said they could not find qualified workers though unemployment was still high. Their complaints were reinforced by the fact that industrial productivity decreased dramatically from 1983 to 1986, though investments in new technology were higher than average. Probably it was very painful from a management perspective to integrate new workers into the new flexible regime of the factory on a short notice.

From the way we have argued above, the process of further training seems to work much more favourably for those that are already employed and absorbed by the processes we have indicated. Though the vocational training system is open and numerous schemes intend to favour the passage of unemployed workers to the system of vocational training institutions, the total dynamics seem to fail in some respect or another - other things being equal.

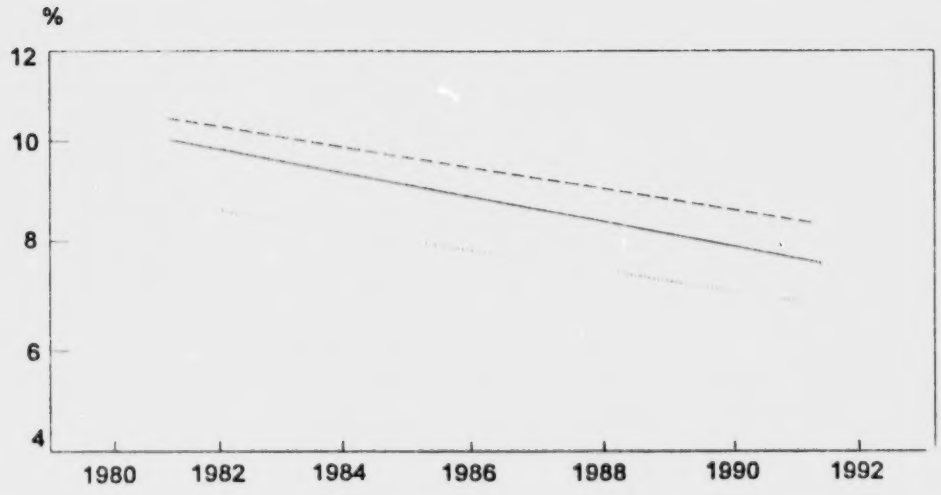
A closer look at the figures, however, indicates that this is not necessarily a defect of the structural property of the national system. It seems to matter how the system is managed locally. Breaking down unemployment figures into regional statistics shows that some regions are evolving clearly and even more significantly towards a dual labour market than we should expect from the national statistics. On the other hand, in some regions there seems to be mechanisms at work, which hypothetically indicate that a welfare version of the flexible industrial regime is emerging:

Figure 1.2: Unemployment as percentage of labour force. Selected regions (Sjælland)



Note: CPH: Copenhagen County
VsC: West Sealand County
SSC: South Sealand County

Figure 1.3: Unemployment as percentage of labour force. Selected regions (Jylland)



Note: VeC: Vejte County
RC: Ringkøbing County
ViC: Viborg County

While unemployment rates were fairly similar in the two groups of regions at the beginning of the eighties, the two groups have shown rather different tendencies. In the selected regions of Sealand there is a general tendency of increasing unemployment over the whole period, while the general trend for the selected regions of Jutland is increasing employment.

Our aim here is not to construct a general explanation of this phenomenon (see Kristensen, 1992). Basically, the regions in Jutland have experienced high growth rates in manufacturing industry during the eighties. The active management and local reconstruction of the vocational training system may be one important cause of these high growth rates. The experiences of Herning in the County of Ringkobing and Salling in the County of Viborg have already been mentioned (for more details, see Kristensen, 1992). In the following case-studies we have chosen Torkel in the County of Storstrom and Balder in the County of Vejle, while Glum is located in the County of Ringkobing. Our cases - in the two enterprises from industry - may also reveal some of the factors working in favour of a dualistic or a welfare system.

Notes

1. I discovered this in a series of case studies, which I carried out for Cedefop and FAST in 1985. Danish skilled workers were virtually running their part of the workshop very much against the industrial sociology that I had been taught during my own education. However, in doing a historical study to try to explain, how it was possible to find a factory organization based on craft principles in the 1980s, brought me in contact with studies, which explained some of Danish industrial successes from this type of organization. For example, it was explained that the Danish ship-building industry was the third largest in the world during the second world war due to the fact that it could be run with less costs to managers at all levels, because workers could mange themselves.

2. The Labour Court is part of the institutional complex by which unions and employers association agreed to regulate the Danish labour market at the turn of the century. Though many agreements are still signed locally or at the level of individual crafts and industries, central institutions play a crucial role in setting national frames, sanctioning and the rhythm for doing agreements. To limit strikes and lock-outs to the period when negotiations on central agreements is taking place, the Labour Court has been institutionalized to solve conflicts among the parties, and to impose a fine on the part who is convicted to have broken a legal agreement.

3. I would never have discovered this by reading Danish industrial sociology. Rather it struck me after visits to 15 medium-sized enterprises within the iron- and metal-industry (between 200 and 700 employees) that in no case had I met a foreman, production manager or technical manager (in charge of both production and development), who had not started his career as an apprentice. Even several of the managing directors interviewed shared this background.

SECTION 2

CASE STUDIES

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Introduction: "Structured Continuing Training" - a Strategy in an Institutional Context

"Structured continuing training" is the name given by Balder to a practice which has been applied with increasing consistency since it was launched in 1987. For Balder this concept primarily represents a change from dealing with continuing training on an ad-hoc and slightly random basis to following an established procedure, codified in a training agreement.

Continuing training activities are planned on the basis of the employees' individual wishes which are added up to enterprise level in a fixed "structured" pattern. Thus, once a year - in January - the firm works out a plan for course activities which the individual employee is to follow that year.

Over the years Balder has found that "structured continuing training" also institutionalizes a new and efficient relationship between the firm and the local public vocational training institutions. "Structured continuing training" enables the firm to plan its needs for courses at such an early state that the course plans are very likely to he realized, even though seats on courses have become a scarce commodity.

The field researcher can identify another aspect of the concept "structured continuing training". As it will become apparent from the following case analysis, "structured continuing training" strengthens certain structural traits in the firm's organization of labour, at the same time as the institutional effect of continuing training enhances the typical characteristics of the "skilled" labour market with respect to horizontal and vertical mobility.

The organization of labour is built around production groups which are based on the autonomy and competence of the individual worker within a speciality. Continuing training sustains this organization of labour which increasingly requires cooperation between workers who at their work "place" in the factory are able to take responsibility for substantial integration of planning, change, organization, execution, and follow-up of their work. Furthermore, they must be capable of maintaining tools and machines, inventing new and more effective ways of performing, etc. Undertaking this role they integrate a profound understanding of specific production tasks with the associated tasks which were earlier undertaken by middle managers and technical staff: development of methods, coordination, and control. As the individual workplace in the firm demands highly skilled workers, it becomes increasingly difficult for "specialists" to change places. The rotation of workers within a team or a group, which many researchers have made the very core of flexible production, does not materialize. Rather on the contrary. On the other hand, the potential of the individual workplace for flexibility and reorganization is improved.

The new skills relate to "places on the floor" in the factory - places which provide the occupiers with identity and ambitions which effect the forms of cooperation and

the opportunities for organizational changes to be pursued by the firm. The continuing training activities have made the workers attractive on the local labour market - thus the lack of internal mobility strongly contrasts to the potentially growing external mobility. Therefore, there are limits to what changes and opportunities the firm dares to offer its workers.

Ironically, the answer to this dilemma is a continuation of "structured continuing training" beyond what is needed from a purely functional point of view. "Structured continuing training" as a codified right in itself motivates many workers to stay with the firm; but at the same time, the offensive utilization of this right leads to workers acquiring skills beyond those which relate to their present job in the factory. Automatically, they will become more mobile, internally and externally, as they collide with the functionally defined training ceiling. Gradually, the firm has been able to channel this mobility into a system of horizontal and vertical careers which promotes the integration of different parts of the organization.

This report examines in depth each of these aspects of "structured continuing training". First, structured continuing training is viewed in the historical context of the firm, its relation to the internal change in the organization of labour into production groups, the function of the internal labour market, and the way in which careers are managed. We shall demonstrate how this system in the case of Balder has achieved a certain self-promoting balance of mutually self-reinforcing mechanisms which have certain stabilizing effects on the firm. At the same time, the system has enabled the firm to adapt to new and as will become evident - dramatic changes in the environment. Second, departing from the situation in Balder we will outline the interaction between training institutions, trade unions, etc., which have made it easy for Balder to formulate "structured continuing training" as a "social contract" between a broad coalition of interests within the firm. Without the institutional framework, this "social contract" would have been far more difficult to establish. By including the institutional aspects we attempt to provide an insight into the opportunities for variation which exist within the framework of the Danish system of vocational and continuing training. In the concluding analysis of the local institutional conditions for generating continuing training models, we will also include institutions which have not been involved in the case of Balder in order to demonstrate that the "structured continuing training" at Balder is merely one of many models which can be constructed in this regional area. It is possible for other firms with other types of coalitions to find institutional support for other models.

Restructuring in the 1980s

The fundamental principles behind the organization of Balder were created around 10 years ago. During a few years at the beginning of the 1980s, the firm underwent a radical change (described in detail in Kristensen, P.H.: Teknologiske Projekter og Organisatoriske Processer, Chapter 3. Roskilde, 1986). At that time the firm was merely a production unit of a corporation owned by a large Danish corporate group. Due to unsatisfactory financial results, the firm was presented with an ultimatum in

1981: re-organize the firm and improve the financial outcome, or you will be closed down.

Balder was reconstructed as an independent subsidiary with its own board. The board appointed a new director who had the idea of turning the production unit into a real firm based on flexibility. Profound changes were introduced within the new framework, including administrative routines and other functions. They comprised:

- independent accounting unit;
- a planning department to control the processing of orders from the time they were placed with the suppliers till delivery, and to coordinate the firm's own production with its subcontractors;
- a purchasing department;
- a development department, which was to develop a product range within the narrow speciality which the corporation had defined for the firm: pumps, valves and fittings for flow equipment;
- a separate sales department to be responsible for marketing the products on the open market, i.e. sales to others than the corporation in connection with delivery of "turn-key-dairies".

In short, the factory was turned into a "real" firm.

But not only the structural framework of the "factory" changed. The most profound changes took place in the organization of production and labour. The situation at the outset was that of a typical functionally-divided machine factory, specialized in working in stainless steel. In order to reduce stock of manufactured goods and operating costs as well as to improve lead time and customer service, the mode of production was changed into a "team concept". The factory was organized as a number of "mini factories" that each performed all the tasks involved in that specific production area. Each "factory" was manned by a group of workers and "managed" by a foreman. A pump factory, a valve factory, and a number of smaller "factories" each producing a specific range of fittings were thus set up. A far greater degree of continuous flow was achieved within the groups, despite the fact that, for example, the pump group produced a vast number of varieties. Whereas the machines had earlier been grouped according to function (drilling, milling, welding, and assembling), the individual production group now had at its disposal the total range of equipment necessary for functioning as a factory within the factory.

Originally, the production management had intended that the workers within a mini factory or product group should rotate and be capable of replacing one another, depending on which workplaces were subject to peak loads. However, the workers concentrated on making their workplaces work as efficiently as possible. The production groups came to consist of a set of true subcontractors which were separately responsible for the work at their respective "places" comprising one or more machines or other equipment. The workers displayed significant initiatives and commitment in their efforts to make their particular place work as flexibly as possible in relation to the constant needs for changes from one batch to another. The fact that the director was very keen on introducing new, computer-based technology (for turning, milling, and welding) did not reduce the demands on the

individual workplace since this was where planning, programming, etc. were to take place.

The fast, successful implementation of the new technology was, among other things, due to the workers' significant ability to organize the learning process themselves. The programming of the new CNC machines was entrusted to skilled machine operators, who volunteered for this task. To some of them the task offered the opportunity of extending their hobby to working hours. A few attended evening classes to learn skills such as machine coding -skills that were automatically transferred to the firm which in turn was able to profit from new "tricks" yet unknown even to the machine suppliers. All the CNC operators attended suppliers' courses and required a basic knowledge of the machines for which they were to be responsible. But above all, the workers started to compete among themselves across production group boundaries for finding new, sophisticated ways of handling the equipment. Experience flowed smoothly between the individual workers on the factory floor, although they had to communicate across "dividing lines" created by the fact that the various production groups were supervised by different foremen who each had their own budgets and financial responsibilities. The catalyst in this self-organized, regular continuing training was a newly established job as programming technician. A former machine operator who had been with the firm since the CNC machines were introduced was offered a white collar job as internal consultant assisting in solving the problems experienced by the individual machine operator when programming the CNC machines.

The work on the CNC machines is just one example of how experience was acquired during the production process. The "owner" of the specific workplace interacted actively with the rest of the organization to ensure that his workplace functioned effectively. Consequently, experience was acquired "on the job" and inappropriate aspects and possible improvements were defined here. The firm institutionalized routines for consulting the workers thus making use of their experiences when planning for future investments. Cross boundary communications were further strengthened by replacing the piece-rate system with a pay system based on a fixed hourly wage plus a bonus. The philosophy was that the individual workplace should take the initiative to make the work in other parts of the organization function better if this work obstructed the organization of labour at the individual "workplace". In short, the individual "workplace" on the factory floor was granted very broad powers and was to try to make the other functions in the firm interact with it. The workers in these "workplaces" increased their skills, became more apt at changing their "workplace" fast and independently as well as coordinating their varying production tasks with the rest of the organization. However, the system did not make it easy to realize the dreams of increased rotation.

However, other forms of flexibility were achieved. The firm often needed to reduce capacity in one production group and raise it in another as the market for different product groups fluctuated These adjustments of capacity could be made quite easily by moving a worker and his machines (the "workplace") from one production group to another, where the machine operator would be capable of integrating his "workplace" into its new context. A particularly good collegiate spirit prevailed in the

factory, partly due to the conscious efforts of an all-embracing convenor of shop stewards and to the introduction of fixed hourly wages. This spirit meant that the workers accepted to engage in the necessary, mutual training of new members of the groups. This activity required no formal policy; later on, however, a policy proved to be relevant.

Balder in a Volatile Economy: Flexible Stability

Revisiting the firm in 1992, the researcher is bound to be confronted with a paradox. On the one hand, stability in the organization and among the staff has been so great that changes are barely recognizable. On the other hand, much discussion is going on about the vast turmoil that has characterized, and still does, the firm. This paradox can only be understood on the basis of the flexible stability which has characterized the organization since its reconstruction at the beginning of the 1980s.

The formal organization plan of the firm has not changed much over the years. The administrative functions introduced ten years ago still exist. The machines are slightly more densely packed. A few workers whose skills we had admired on our first visit had left the factory to fulfil their aspirations in other firms (for example as sales or service staff for CNC machine suppliers). New members of staff had joined. But many workers had acquired new positions and some had climbed the hierarchical ladders. All things considered, however, it was a firm working with incredible stability on the new basis. If possible the workers acted even more autonomously in the working groups. The tasks of the production management were few, and despite a significant turnover of production managers, nothing fundamental had changed in the day-to-day routines.

On the other hand, the "frameworks" of the firm have been turned upside down several times. The turbulence reached a local peak in 1986/87 when the business group which at that time owned the firm encountered major problems with some huge dairies on the American market. At the same time, a number of sales-promoting agreements on the open market proved counterproductive. The cumulative effect was that Balder, which had improved its performance in terms of significantly increasing profits since the restructuring now suffered significant losses. A newly appointed manager was given the chief task of reducing the workforce. The corporate group which had previously been proud of its dairy equipment group, now wanted to get rid of a business that was making huge losses, including Balder.

Few fought for the survival of the corporation and the firm. The convenor at Balder was, however, able to mobilize a small coalition at the headquarters which he often visited in his capacity as the employees' representative on the board. However, the coalition was strong enough to prevent a competitor from buying the Danish group with the purpose of closing it down. Instead, the coalition succeeded in making a British business group interested in a cheap takeover.

The convenor found an internal coalition partner in Balder when a new manager was appointed at the beginning of 1987. The workers already knew him - he was

production manager in the firm in 1984 and responsible for implementing the new organization of labour. The relationship between the new manager and the workers was one of mutual trust. Instead of causing internal fights, the external threat provided a reason for intensifying collaboration across teams and departments.

The challenge was familiar - to make a firm owned by a corporation survive the battle for power and resources within that corporation. The firm already mastered this art having learned from its experience with the Danish corporation.

The firm had to change its name but apart from this the change of owners has not weakened the identity of the firm, perhaps rather on the contrary. Today it is described as a stroke of luck that the British group took over Balder and the Danish business group to which it belonged.

The controlling and coordinating functions of the British group in relation to its subsidiaries are limited to financial flows and results. If a firm is capable of achieving financial results in line with or in excess of those budgeted, it has free disposal of its means. The British-owned group is large and operates in many countries. Looking at the situation from the point of view of products and production, many of the activities are overlapping, but the group does not have a consistent policy for coordinating its subsidiaries in order to achieve technical and financial economies of scale. Pumps, for example, are produced in Denmark, Britain, and the USA. Valves are also produced in Germany. The organizational affiliations of the individual subsidiary and its authority are ambiguous and ambivalent. Balder is, for example, legally subordinated to the Danish corporation which previously owned it, but technically and operationally subordinated to one of the subsidiaries located in Germany.

Following the motto "it's easier to ask for forgiveness than permission, Balder has therefore tried to exploit the opportunities that arise inside and outside the group. The internal harmony in the firm combined with the high flexibility of production and ability to re-adjust has been a decisive advantage in these efforts.

The firm succeeded in having the new generation of pumps allocated. Balder participated in a competitive collaboration with British and American subsidiaries on the development of these pumps. There were several reasons why the firm succeeded in emerging from this collaboration as the producer of the new pumps. An important factor was that it was able to demonstrate cost advantages. Even though British wages are far below the Danish, Balder was competitive taking overheads into consideration. Costs stemming from the organizational hierarchy are simply considerably lower in Denmark than in Britain. When negotiating this type of agreement it has proven important that the manager knows "every nut and bolt" in his firm and also knows what to expect from his workers. In the pump group the work was organized in such a way that it was possible to introduce the new pump programme smoothly. Today, two and a half years after having completed the product development phase, nobody ever pays any attention to the fact that a new generation of products has just been born.

Another example is the valve programme. Originally, the German subsidiary that produced valves had ambitions to let Balder function merely as its "production plant". Balder, however, realized that it was capable of achieving an independent role within the gigantic internal market of the group. "Just-in-time" production would make it possible for Balder to supply valves when the time factor was crucial to the customer. Through its independent sales department Balder could base its global marketing on arguments different from those used by the Germans.

It proved to be an important sales parameter. When projecting flow systems the main contractor does not know until late which components will be necessary. Thus, the delivery time for pumps, valves, and fittings becomes a critical variable when the main contractors face great demands from their customers in the last phases of projects.

Balder is able to deliver within a month. At the beginning of each month, Balder only knows about one third of the orders necessary to utilize its production capacity. On average, the sales department has been able to promise delivery time equivalent to one third of the German and has moreover proven that the customers can trust the company to meet the promised deadlines. These factors have strengthened the mutual trust and collaboration with the business group's global network of companies and dealers. The firm has not yet been able to eradicate the traditional conflict between sales and production, but the relationship is sustained by flexibility which in turn means that by and large production is almost always capable of rushing through an order often against extremely tight deadlines - sometimes with only a day's notice. On the other hand, if deadlines cannot be met, the production department and sales department will discuss a realistic alternative in order to maintain good relations with the customer. Because of its practical knowledge of how the process equipment works, the sales department is able to assess when critical deadlines become seriously critical (e.g. in the event of breakdown in on-going processes) and when they are merely fairly critical (e.g. in connection with delivering a new project).

The strategy has proven successful. Today turnover has passed 170 million kroner and is thus far in excess of the level achieved when turnover reached its previous peak of around 113 million kroner in 1985 while it fell far short of 100 million in 1986 and 1987. Since 1987 turnover has doubled, profits has trebled, and the workforce has only increased by 8%. During the tough periods of the 1980s the firm accumulated debts in terms of an overdraft facility which in the most bleak periods showed a negative balance of 30 million kroner. Today the balance is positive.

The dramatic ups and downs in turnover clearly show that Balder is capable of surviving in a volatile economy. Its survival capacity has, however, been dependent on the willingness of changing, financially strong corporations to underwrite debts as they grew. But also Balder's flexibility has played an important role.

This flexibility is due to a combination of many factors. The following have been mentioned: (1) a corporate culture based on anarchy; (2) effective, streamlined planning; (3) the ability to increase/reduce its own production by effectively

exploiting the production equipment at hand; and, (4) substantial use of subcontractors who, among other things, have also functioned as buffers.

With regard to the corporate culture, the firm has acted on the fact that Danish workers are highly trained. Consequently, the firm has accepted that the employees independently allocate the tasks among themselves and resist executing orders which they find foolish. The effect of placing most of the responsibility on the executive levels, and thus operate with a flat organizational structure, has been swift reaction time. Balder's foreign competitors, both within and outside the group, have not yet succeeded in achieving the same degree of harmonization between responsibility and competence.

In the case of Balder the logical conclusion has been to act consistently with this recognition which is demonstrated by the way the production groups work and, as we shall see, the way they are going to work in the future.

Balder's production planning serves as an effective, cross-boundary means of communication. An important precondition for Balder's ability to control its own activities and its subcontractors within short deadlines is an effective computer-based planning system. The planning task involves coping with approx. 14,000 product numbers of which 7,000 are frequently used. Of these 7,000 numbers, about 4,000 are produced by Balder while 3,000 numbers are supplied by subcontractors. When receiving an order, the planning department immediately splits up the order into item numbers and places orders either internally or with subcontractors. The planning department is in charge of coordinating the firm's logistics with that of other firms.

Direct communication on production planning implies that frequent changes of priorities can take place almost unnoticed. The planning department collaborates closely with the foremen, who translate the plans into "task cards" which are displayed on the large planning board in the production site. When new rush orders are received from the sales department priorities can easily be changed by simply changing the order of task cards. By this routine the firm seems to be able to avoid the problems of communication flaws between sales and production which are so typical in most firms.

The next step in the process from plan to production is also fairly uncomplicated The worker, who is responsible for assembling a product, picks up the necessary parts in the stock which is located in the production site and proceeds to finish the task. The usual traffic of written requisitions has been abolished and the worker only needs to report which parts have been taken out of the stock.

The third factor, ability to increase/reduce the firm's own production in line with volatile economic conditions, is based on a number of factors that have interacted without resulting in the usual vicious circles which easily crop up between workers and management. As we shall later demonstrate, the firm has been able to stabilize a significant part of its own production by making use of a vast network of subcontractors. Additionally, the autonomy of the workers means that they instinctively try to maintain employment by reducing productivity during periods of

recession. Counteracting reduced productivity is associated with major managerial problems when production groups are composed as in the case of Balder. Shop stewards' and management's answer to this classical conflict was to invent 'structured continuing training'. First, it implied that more workers than were actually needed during the difficult years of 1986 and 1987 could maintain permanent relations with the firm. It would have been disastrous to the firm if it had to lay off a large number of competent workers who had become familiar with working under the new factory lay-out. In 1986 the firm was forced to lay off a number of workers but by introducing continuing training activities the number of lay-offs was considerably smaller in 1987. With the State reimbursing accommodation, course fees, and a large share of the wages, the firm was able to hold onto valuable workers at very low costs and at the same time distribute the tasks among the remaining workers in a way that did not lead to a total decline of work ethics.

Conversely, the continuing training activities made it possible to expand the number of workers with critical skills in CNC technology which made it easier to bring in three-shift production when turnover increased and necessitated a better exploitation of the production capacity.

However, a decisive precondition for succeeding in gaining market shares on the internal market of the Balder group was the firm's ability to reverse the drop in efficiency during the recession into a rise in productivity. Such a rise proved not to be conditioned by radical restructuring and improvements of production processes. When the situation started to ease slightly during the last two years of the 1980s, the firm was able to achieve productivity gains of about 30-40% by merely introducing a few changes - changes which caused no problems due to the relationship of fundamental trust between workers and management. The convenor assumed responsibility for re-introducing an incentive wage system based on time studies, apparently without destroying the basic solidarity of the workers' collective. The present wage system consists of a fixed hourly wage plus a productivity-related bonus. That the fundamental feeling of solidarity among the workers has remained unruffled may be due to the fact that this bonus partly depends on the total performance of the production group and only amounts to 4-5 % of the total wage.

The relatively small effect that booms and recessions have had on Balder is conditioned by its structural interaction with the surrounding industrial structure, with the use of subcontractors being an important flexibility factor.

Balder's subcontractors are producing a large number of components, e. g. electric motors for pump production. Consequently, there are several shoulders to carry declining turnover in times of recession. Most important, however, is the fact that Balder is located in a district of stainless steel manufacturers. About 70% of the Danish production of stainless steel items are produced in a fairly concentrated part of Jutland. Consequently, Balder has been able to use the subcontractors as complementary forms of specialization of subcontractors. Presswork and deep-drawing are done by subcontractors that have invested in top class equipment thus saving Balder the costs of such investments. Second, a large number of small subcontractors work with the same types of machining equipment as Balder is making it easy for the firm to find "buffer" suppliers when the flow of orders

suddenly increases beyond what can be handled internally. Thus, the availability of "buffer" suppliers has enabled Balder to keep its internal, numerical fluctuations at a tolerable level. The risk of having to lay off highly skilled workers during periods of recession, and hence destroy well-established relations of trust, has been strongly reduced by using subcontractors. On the other hand, a sudden rise in incoming orders would have forced the firm to recruit new, low-skilled workers the result of which would have been reduced productivity and demands for additional basic as well as continuing training. In other words: subcontractors prevent the emergence of vicious circles - both in times of boom and recession.

A major question is why subcontractors continue to collaborate with Balder under these conditions of frequent fluctuations. It is fairly easy to understand that internally the system of subcontractors alleviates fluctuating market conditions; but how does one explain that the relationship of trust with the surrounding system of firms is not turned into market opportunism?

In the case of Balder the question was pushed to the extreme in 1985 when the firm faced a temporary boom and the subcontractors were strongly urged to increase their flexibility. Two years later, when recession hit Balder, all production agreements with subcontractors were cancelled. The present utilization of subcontractors has by far exceeded the level of 1985. Of a turnover of 170 million kroner, subcontractors account for around 100 million kroner.

The manager's explanation is simple: the people involved in this network of firms know each other personally and have done so for many years. As for himself he used to work with production management in the firm that Balder currently is using as a subcontractor of electric motors for pumps. Hence, he has numerous contacts at all levels of this firm. He has known the suppliers of presswork and deep-drawing for twenty years, partly from periods of employment in firms which Balder regards as competitors. Although these subcontractors deal with many mutually competing firms, they actively participate in Balder's efforts to develop new products. Evidently, this tight network of personal bonds has facilitated collaboration. According to the manager the personal bonds are structurally determined: the very nature of the Danish industrial structure of small manageable, non-bureaucratic firms provides the basis for such personal bonds. Combined with a strong horizontal mobility and career paths across firms, this structure helps to form and maintain personal bonds and contacts and thus creates the necessary background for mutual trust in collaboration.

Despite the periods of vast turmoil that Balder has experienced, it has maintained collaboration with many of its subcontractors which have been actively involved in the development of the new pump programme. When introducing the new pumps they were found to make very little noise: "It was only possible to distinguish the very sound of the electric motor". This led to a development project with the motor supplier aiming at further reducing noise from the motor. In another situation, when Balder was planning a test programme for the motors, the motor supplier offered the firm use of his test facilities. In this case Balder saved 50,000 kroner which was the price for having the Technological Institute running the test. By working together on this test both parties learnt a great deal about their respective products.

Such close contacts obviously makes it much easier for Balder to make the subcontractors understand and accept that the firm's frequent change of activities is caused by market conditions.

However, the subcontractors have also learnt to structure their own organization accordingly. Balder finds that subcontractors are increasingly specialising in a limited variety of production processes which they in turn are capable of handling extremely flexibly. This flexibility makes it much easier for the subcontractors to interact with a broad variety of customers and hence balance their own order-books.

Consequently, some of the subcontractors have created an image of themselves as attractive partners to collaborate with - an image which is communicated through the network. Balder shares its experiences with other Danish firms in the British group, and information on good and bad subcontractors is even exchanged among competitors. Subcontractors who understand this system of entrepreneurial exchanges are aware of the dangers of adopting short-term, opportunistic strategies.

Working Groups: The Basis of the Strategic Pattern

The planning department's ability to manage continuous adjustments of the firm's own utilization of capacity strongly depends on the working groups' and individual workplaces' capability to re-adjust to changing production tasks. Changes in production require little instruction; members of the staff issue task cards and the individual workplace and workers are, because of their autonomy, fully capable of independently integrating the necessary tasks. As mentioned, these tasks typically involve all phases from the worker fetching parts/raw materials from the stock till he delivers the finished product ordered by the sales department through the planning department. During this process the worker is responsible for organizing the work (e.g. programming of machines), checking tools and product quality, and ensuring proper maintenance of both machinery and tools. For this reason the firm rarely experiences breakdown in production equipment and few repairs are required thus keeping expenditure at a low level. Changing the task performed by the individual workplace involves only a small part of the organization. Against this background it is obviously easier for Balder to balance internal and external production. During recession the individual workplace will have to produce a growing number of different blanks which means that more time has to be spend on programming, re-setting, etc., while booms entail fewer and longer production runs resulting in rising productivity. The system is thus to some extent self-balancing despite the principle of not producing for stock.

The principle of the individual man knowing his "workplace", his machines, and equipment is the basis for this institutionalized flexibility. However, it also makes the system vulnerable as it is not possible to simply move people from one workplace to another when rush orders, illness or other factors require it.

An example of the time involved in training a worker illustrates the challenge Balder faces if it wants to achieve flexibility of rotation, too. A CNC machine operator estimated that it had taken him around three months of "training" to become qualified at handling his workplace: two weeks of instruction by an experienced colleague and two and a half months of getting to know the machine through trial-and-error. The machines are ageing and requiring tricks and dodges to make them work optimally; it is time-consuming to figure out how setting and re-setting time can be reduced most adequately, and to learn how to interact with the relevant parts of the organization and the workshop to make work flow smoothly.

Therefore, the desire to swap jobs across workplaces sounds like a hollow phrase to the workers: the costs involved in terms of extra manning during a number of years will make it financially unrealistic. And with the current pressure on delivery times, few if any are looking for rotation. "If they suddenly take ten men and rotate them in the factory, things go wrong. More broken blanks, more time for setting-up (which we get a bonus for today), more breakdowns. It cannot be avoided... Running time or actual production time on the machines is almost 80% today".

The workers find it paradoxical that the firm to a very large extent has focused on reducing setting-up time at the same time as it is talking about rotation. By promising to increase the bonus by 1 krone per hour if setting-up and resetting time could be reduced by 20%, the workshop has succeeded in reducing the time by 12%. The workers say that it has required many tricks which are only possible because they have long experience in working their machines. In short, the growing demand for flexibility requires a fairly stable manning of workplaces.

Another original philosophy, that the production groups should be self-governing, has not yet been implemented. The position as foreman still exists. He is, however, less occupied with maintaining discipline among the workers; rather his job involves coordinating the production group with the rest of the organization. He maintains contact with sales, planning, purchasing, and other foremen. When a "workplace" needs to get things through, or when it can see a problem which requires that the rest of the organization is involved, the worker in question tells the foreman who then mobilizes the relevant parts of the organization. And conversely, if other parts of the organization have a problem which necessitates particular workplaces being involved, the foreman acts as mediator. To some he is like a messenger boy, to others he "glues" the organization together, and to a few he resembles a pariah whose presence rather is due to old habits and personnel policy than organizational necessity.

The foreman of the pump group sees his role as one of assisting his group in solving problems that may arise. He has tried to create understanding among his men for the flexible way in which the firm runs, partly by explaining why they suddenly have to change from one type of production to another. The foreman started in the firm as machine operator and was later on promoted to a position in the planning department. Consequently, he is able to view the problems from different angles. Thus, because of this background he understands the total framework of the organization and is able to make it function across divisional boundaries.

However, departmentalization is not yet completely a thing of the past. The pump group communicates smoothly horizontally, i.e. workers from the individual workplaces exchange information on recurrent quality problems. On the other hand, communications across groups and domains of the foremen, e.g. to the "grinding shop" and other groups, are problematic. The workers seem to have difficulties in finding the right workplace and communicating the problem directly while at the same time being opposed by tradition to complain to their own foreman about colleagues. The philosophy of Japanese quality circles seems to have difficulties in penetrating the system. People focus on performing optimally within their own domain but they are not willing to assume responsibility for correcting the performance of other workplaces.

A contribution to making the individual workplace an organizational unit is also the ingenious system regulating the relationship between the three trade unions represented in the firm (Metalarbejderne, SiD, and KAD). The factory employs about 75 skilled and 54 unskilled workers. Both groups are represented in the various production groups, but in widely varying proportions. The pump group, for example, counts 19 skilled and 4 unskilled workers.

To an outsider it can often be difficult to understand which jobs are negotiated by which trade unions and why. Among the shop stewards of skilled and unskilled workers the "system" is perceived as "workplaces" of which some belong to the domain of SiD while others belong to the Metal Workers Union. Whether the person occupying the given workplace is skilled or unskilled is irrelevant. The person who occupies such a workplace is organized in the trade union which has the right to negotiate working conditions etc. for that particular workplace. The shop stewards, however, are very good at finding ways of softening these "demarcations" when illness or training activities makes it necessary to fill temporary vacancies; but they have agreed to keep this regulatory role in their own hands and avoid handing it over to the foremen or the production manager.

The stability and reproduction of the system are thus not merely an effect of but also a necessary condition for the important role undertaken by the shop stewards and, not least, the convenor. First, the convenor always makes his presence felt in the background taking care that rumours, bad vibrations, and disloyal behaviour among the workers are kept at a tolerable level. Order and discipline are maintained by workers who have been elected by their colleagues to perform this role. The representatives of the workers' collective negotiate with the different managers on deliveries, productivity, etc., as if they represented independent subcontractors. The convenor zealously ensures that agreements are kept. When an agreement on productivity, overtime, or some other matter has been made with the management it is implemented to the letter. In return, the shop steward expects the same from the management and is willing to accept occasional conflicts, e.g. minor strikes, working to the rule, etc. if it proves necessary to reestablish respect. In case a manager continuously proves to have difficulties in keeping agreements, the workers' collective does not refrain from using a strategy which makes him look for another job.

Evidently, the shop steward must know what is expected of the individual worker and workplace in order to be able to conduct these eternal negotiations. This interaction between management and workplaces through the shop stewards requires that the workplaces are more or less manned by the same persons. How else should he be able to come up with realistic estimates about what is possible and what it not possible?

The turnover of workers is extremely low, especially among skilled workers. When somebody wants to leave the firm, everybody knows it and why. During our field-study a machine worker who operated a CNC-controlled machine centre wanted to leave the factory and everyone knew that för domestic reasons he did not want to work night-shifts. In such cases, the worker leaving the firm rarely slams the door behind him: "Who knows, I might want to return". And for that reason the internal system of mutual training works impeccably since workers who are on their way out usually train their successors.

The concept of internal and mutual training is also applied to situations when a worker's application for another job in Balder has been accepted or if someone needs to train his substitute during holidays or training activities. The convenor's efforts to ensure the solidarity of the workers' collective are appraised by everyone - something which we shall later demonstrate. In other situations, however, the workers are very restrictive about training colleagues to do their own job. Undoubtedly, they regard their broad and profound skills, their ability to master the many different processes involved in their workplace as an insurance against being laid off or moved to workplaces which they have not chosen themselves. Therefore they are not particularly fond of being asked to train new colleagues and production management needs solid arguments to persuade them to do so. For this reason alone, a continuing training policy based on mutual training within the frameworks of the firm would have encountered serious problems; but there were greater and more serious reasons for basing "structured continuing training" on a different concept.

The Genesis of "Structured Continuing Training"

"Structured continuing training" is not the result of just one prior plan. The concept has gradually been developed into its present form and most likely it will be subject to continuous changes in the future. The policy of continuing training has, broadly speaking, developed through the following four phases:

In the first phase the need for a more systematic effort was recognized. This was in the period 1982-87, when the firm invested extensively in computer-based machining equipment. As mentioned earlier the implementation went very smooth but only a very narrow group of workers mastered the new machines. When some of the workers left the firm, were ill or there was a need to change from two shifts to three it was difficult to find skilled substitutes. In most cases these problems were solved by colleagues instructing each other or workers attending supplier courses, but the problems always found a narrow solution.

The second phase arose in 1987, when the firm faced a crisis. The convenor pushed through a training agreement arguing that by paying the difference between normal wage and unemployment benefits, the firm would be able to hold on to qualified workers by offering them courses which in addition would provide them with the skills needed for handling situations when the firm had its back to the wall. The convenor, who represented the skilled workers, also realized that continuing training could be used as a means to counteract the pressure that might come from below, i.e. the unskilled workers. By ensuring that a large number of skilled workers were trained in the new technology it would be easier for him to defend the existing distribution of workplaces between the two groups. But he also realized the threat from above. One colleague had already been made "programming officer" and he might be joined by others; the result might be that the programming of the new machines would end up as office jobs and the operation of the machines left to unskilled workers. The most expedient way of handling this threat was to make the broad group of machine operators so competent that no one wanted to change the basic organization of labour. The agreement granted each worker the right to attend one course every year.

In the current *third phase* workers are still attending courses according to the training programme. Today, the basis for these activities are neither that the firm has excess capacity nor a shortage of critical skills. Many workers have by now attended courses that have stretched over several years and they are about to reach the ceiling of the specialty which they have chosen themselves. Usually, the courses consist of several levels ranging from basic to advanced levels which the worker gradually go though over the years. Most of the old workers at Balder have completed the advanced levels of their courses and now have to look around for a new series of courses.

Therefore, a *fourth phase* is being considered. Today, several workers have started to attend a series of courses on e.g. CNC despite the fact that they are not operating such machines on a daily basis. The interaction between theory and practice, which everyone finds important, is thus about to collapse. One way of solving this problem is to expand the manning of workplaces from three (one for each shift) to four by taking in someone else from another workplace and thus organize shifts across two workplaces. This will gradually provide a growing number of workers with multifunctional skills. The problem is obviously one of resources, since there is a short-term need for expanding the manning. In the pump group the idea is to increase the manning by taking in a older apprentice to replace one of the others in the group who in turn is transferred to another workplace to learn new skills. The apprentice, acting as a "flyer" will consequently become extremely "multifunctional".

"Structured continuing training" is evidently not an element in the world-wide strategy of the British business group. On the contrary, the policy is handled without the group's knowledge. An important reason for this is that the training policy involves very few financial resources. The firm only has to pay the difference between wages and unemployment benefits while the workers attend courses, and the system can run on a budget of 150,000 kroner annually. The costs of "pocket money" and travel expenses are debited from other expense accounts. Deviations

from the budget are not likely to cause any complaints. If the firm's own calculations are realistic the structured training activities have had an additional employment effect of five to six persons. This indicates a very virtuous relationship between the means and objectives of the "welfare state" and the firm.

Continuing training is not a subject of high-level political discussions. The operation manager runs a completely autonomous "race" together with the shop stewards. The two parties keep a permanent process going which is started by the individual worker filling in a form on which skills already acquired are indicated, including courses and training sessions previously attended and proposals for courses to be attended in the future. In the case of skilled workers, this generally involves courses offered by "Metalindustriens Efteruddannelse". In the case of unskilled workers such courses are usually those offered by the labour-market (AMU) training centres. The individual worker thus personally designates a series of courses which typically consists of five to eight weeks of course the sequence of which is determined by the vocational training institutions. Shop stewards and the operation manager act as personal advisers in this planning process; but the principle that the individual decides his own courses is laid down in the "Training Agreement". On the basis of the personal lists of wishes, the operation manager draws up an annual course plan for the whole factory. The individual plans are posted on the notice-boards at the beginning of the year.

The plans can, in other words, be made at such an early stage that the firm is able to "book" into the vocational training institutions early enough to fulfil most wishes. During recent years the time factor has become very important in connection with booking into "structured continuing training" due to a strongly increasing demand for courses. The price is, of course, that the firm cannot adjust the individual courses according to the "unpredictable" fluctuations in demand on the individual workplaces. If problems arise they are solved ad-hoc. If it turns out that a worker is indispensable during the period he is scheduled to attend a course, the shop steward, the operation manager, and the worker himself will try to find another period and if the training institution agrees, the worker will postpone his course.

"Structured continuing training" is voluntary and, as mentioned, based on the wishes of the individual worker. However, parties have agreed that all workers should attend basic courses in workshop technology, quality awareness, and measurement engineering. Despite the principle of personal wishes, there has not been any tendency of workers choosing irrelevant courses.

The initial problems were of a quite different nature. At first the continuing training scheme was met with some scepticism. Many workers saw it as an expression of distrust: "Aren't we good enough?" The shop stewards had to organize meetings to encourage the workers. As soon as the first workers returned from courses and talked about them, most resistance vanished. Over the period from January 1, 1987 to December 31, 1991 the workers attended a total of 22,600 hours of courses, equivalent to 4,520 hours per year. In 1992 courses for a total of 4,070 hours were already planned in February.

The skilled workers, in particular, have supported the scheme and many of them have by now exhausted the possibilities of further training in CNC technology. Some have moved on to CAD-CAM and highly advanced courses in measurement techniques. The courses attended by skilled workers typically last one or two weeks, and one or two of these are generally attended each year. The skilled workers attended 14,850 hours of courses in the period referred to above. Today the skilled workers are highly aware of the importance of continuing training as a personal strategy for staying employed in an uncertain labour market. It is both a way of generating adequate skills to "protect" one's job at Balder and a strategy for ensuring a greater range of employment opportunities on the general labour market.

The level of course attendance among the unskilled workers is around 50% lower, a total of 7,750 hours in the period mentioned. Despite their great efforts, shop stewards and management have experienced difficulties in persuading the unskilled workers to be as active as the skilled. Everyone agrees that there appear to be major differences between the two groups of workers. There are several reasons for this.

Many unskilled workers were simply afraid of going back to school. They remembered their school days as a period of eternal minor defeats.

Secondly, the unskilled workers had greater difficulties in recognizing the purpose of continuing training. As mentioned earlier the metal workers strongly insist on sticking to the "professional domains" at Balder. Why should unskilled learn something which could not be used in the firm?

Thirdly, the courses generally last longer at the AMU centre - some stretch over two weeks and others over three weeks. The reason is that the Specialist Workers' Union (SID) has adopted a policy of including a large element of general education in these courses (Danish, mathematics, and social studies). At Balder the unskilled workers are encouraged to attend four courses to bring them up to the "basic level". If the worker in question is a "beginner" in the area of iron and metal working, the series of courses amount to around nine weeks. This is quite a long period viewed from the above perspective.

Fourthly, the shop steward of the unskilled workers has found to his costs that the professional domains at Balder are not "artificial". In the training race that has been created, many unskilled workers are quite simply unable to keep up. Today there is even scepticism about the traditional pattern of the two trade unions to transfer "semi-skilled" workers from SiD to Metal, since it has been found that the "semi-skilled" have difficulties in coping with the system of constant continuing training prevailing at Balder. However, the boundaries of professional domains are gradually being viewed more flexibly as a result of the continuing training activities. While it was unthinkable for an unskilled worker to use measuring instruments twenty years ago, this is now common. Whereas only three years ago SiD members who were CNC operators were not allowed to correct the programmes, this is part of their job today. And the course activity is therefore gradually influencing the redefinition of the division of labour between the two unions.

The most important difference between the attitudes of the skilled and unskilled workers towards continuing training is structural. While the skilled have chosen a trade within which they operate and on the basis of which they define themselves, the unskilled are a heterogeneous group of bakers, grocers, fishermen. etc. who do not necessarily envisage an industrial career for themselves. Unskilled workers take the jobs that turn up, whereas the skilled have chosen a trade. At Balder the turnover of unskilled workers is far higher than among the skilled. The impression is that many unskilled workers regard a job as an industrial worker as a break in a completely different career progression, and they are therefore not inclined to devote energy to continuing training activities. To the great dismay of the SiD shop steward, it has therefore not been possible to threaten the skilled workers seriously in relation to the present distribution of workplaces between unions. However, other firms in the area have adopted completely different attitudes on this issue; in some cases, the unskilled workers have won the right to man the CNC machines.

However, the SiD members also include skilled workers such as car mechanics who because of difficult times in their own sector have looked for jobs as unskilled workers and have swapped the "black" union book for the "red". Some of these workers are actively participating in the training activities motivated by a wish to qualify for jobs mastered by skilled workers when such jobs become vacant.

In other words, the diversity among the ranks of the unskilled is very wide, and it has been difficult for the unskilled workers' shop steward to conduct a consistent training policy similar to that conducted by the skilled workers. "Structured continuing training" at Balder has largely been built on the institutional foundation which exists in the form of courses offered at the technical schools and AMU centres. However, the limits have been transcended in some cases. More general needs for language (German and English) and mathematics have been met by organizing classes at the firm itself. The scheme works in such a way that the firm pays for the teacher and allows some of the lessons to be scheduled during working hours. In return, workers who attend lessons during working hours are committed to attend the remaining part of lessons during their leisure time. These initiatives come from below, but are supported by the personnel officer. Finally the firm supports completely private continuing training activities. A training fund has been established to support individual training, e.g. diploma in technology (teknonom), business management (merkonom) etc. by paying for books and course fees.

Typical Series of Continuing Training and their Effect on "Structured Continuing Training"

During the period studied the workers have on average each attended between two and ten courses. The skilled workers have on average attended around seven courses and the unskilled around four. The skilled workers have specialized in three areas: 1. CNC courses concluding with CAD/CAM and geometric tolerances, 2. TIG welding, and 3. a series of courses in pneumatics and automatic fault finding, particularly relevant for maintenance and repair. Apart from the basic courses (introduction, measuring technique, and quality awareness), the courses attended

by the unskilled workers likewise fall into three groups: 1. operation of machine-tools via turning courses for CNC turning, 2. basic computer studies in conjunction with stock organization and transport, and 3. stacker and truck certificate.

Apparently, the workers have consistently applied for courses relevant to either their present job or another job they wanted at Balder. The reason why the courses focus on such a relatively narrow field making it possible to fulfil the workers' wishes is probably due to the fact that Balder works with standardized universal machines and the production only involves few specialized processes. Moreover, the individual wishes for courses have been fulfilled by using traditional courses offered by the technical schools and AMU centres. Harmony has prevailed between the firm's internal skill requirements and those which the general labour market in the iron and metal industry has tried to meet through offering a wide range of courses.

The skilled workers typically attend series of courses which make them highly qualified experts in particular areas:

Example 1: Flemming has been working in the firm for four and a half years. As for courses, he is slightly ahead of the other workers but the series of courses that he has attended is very typical of a majority of the workers. The courses are:

1. NC/CNC Introduction
2. CNC Manual Programming
3. CNC Computerized Programming 1
4. CNC Computerized Programming 2
5. CNC Setting-up/Operator 1
6. CNC Setting-up/Operator 2
7. CAD/CAM Introduction
8. CAD/CAM 2
9. Geometric Tolerances

Flemming's series of courses reflects great satisfaction with the policy of the firm to let the machine workers be responsible for programming the machines. When he started in the firm four and a half years ago he was assigned the task of running two CNC machines. During the first couple of weeks he was assisted by colleagues who taught him the most basic operations. Not until six months later did he get the chance of attending the CNC Introduction course and by then he had already learnt the skills which the course was supposed to provide him with: ..."I didn't learn a lot - to put it mildly.... The first four or five courses . .. dealt with subjects I already knew well." Flemming explains his impression of the courses primarily by referring to the fact that he had to teach himself programming during the first six months in Balder. "Virtually no programmes are just "run". Most of them have to be modified. Others have to be produced from scratch. With batches of five to twenty-five pieces, this means a lot of programming and setting-up work (two to six resettings during a shift), why you have to be fast at learning and becoming experienced." But the workers are faced with other challenges. The factory's machines also have to be set for experimental and 0-series production thus the operator often is confronted with quite comprehensive programming tasks. Because of his experiences during his first years at Balder, Flemming was able to assume full responsibility for the

wide-ranging tasks associated with introducing the new generation of pumps on his machine.

Flemming experienced the subsequent courses as an active dialogue with the teachers at the Technical School. He was able to teach the teachers a great many things; one of the machines at the Technical School was, however, a newer generation of CNC machines than those Balder currently uses. Balder is, however, considering introducing the new generation of machines in which case the firm will be able to benefit from Flemming's skills. One of the best courses taught him to work with a three-axis CNC machining centre. The more axis and the more tools involved, the more demanding the programming task becomes. And programming has become Flemming's main interest which is why he does not want to be moved to a machining centre which the firm has just leased. Its programming system is simply too "ordinary".

For the same reason Flemming is a little "impatient" on account of the conservative investment policy which the firm has adopted since 1985. Particularly his oldest machine has "served its time" and during his courses he has become acquainted with machines that can solve many of the problems which he can only solve on his old machines by agile "fiddling" . He feels "that the limits of the existing machines have been explored exhaustively".

For the time being he has found an outlet for his interest in programming by attending the CAD/CAM courses mentioned above. He does not know for certain what to use his new skills for currently; but "I was hoping that the new machines - especially those at the machining centre - would be furnished with CAD/CAM. Centres with built-in CAD/CAM are marketed today.... making it possible to produce programmes much faster ... I wouldn't mind becoming a programmer; but the present situation offers no opportunities."

Also geometric measurement presents great challenges. This field focuses on the relationship between different critical tolerances. The courses that Flemming has attended have enabled him to "find out what the drawing office is up to" which has been quite an experience. His interest in measurement has made him interested in advanced measuring instruments, which Balder has not so far given a very high priority - a fact which is also reflected in its investment policy.

Another important aspect of Flemming's course activities at the technical schools is that he has been able to discuss the various machines with colleagues from many different firms. He simply knows a lot about what machines are installed at which factories, what they can do and their advantages and drawbacks. He is still seeing some of these people regularly and he knows what is going on at several factories.

To Flemming, the interest in having new machines installed is both a question of new challenges and of being skilled at working the newest and most advanced machines in order to build up a profile that is in demand on the labour market. Therefore, he is waiting impatiently for a new wave of investments at Balder. While waiting, he considers the continuing training system at Balder to be an important

compensation which also enables him to upgrade his skills on the general labour market.

However, he has definitely "reached the ceiling" within the speciality he has chosen. In 1992 he is due to attend two courses on FMS technology. After that he will not be able to go any further into this specialization in the traditional system. He may have to choose a new line and is considering starting with the fault-finding area. Aside from the courses Flemming has studied for the diploma in business management (merkonom) in the evening. He completed his apprenticeship seven years ago, and Balder is the fourth firm he has been working for since he left school and started as an apprentice.

In various ways the case of Flemming illustrates the connection between continuing training and labour organization at the factory. Internal training and external course activities have made it possible for him to master his workplace. It has enabled him to adapt specific machines to a succession of new variants of old and completely new products as part of a daily routine. But it has also provided him with an insight into how investments could improve his workplace. He is ready when the new technology calls for his surplus skills, and he will undoubtedly be able to cope with the new equipment very fast.

Flemming's strategy for continuing training is thus reinforcing the trends in the current labour organization to collect skills on the floor and to make stable workplaces the basic principle for the functioning of working groups/minifactories.

He is also symptomatic of the phenomenon that Balder is "reaching the ceiling". There are few courses left to offer those who are furthest ahead to improve their skills in relation to their current workplace. In Flemming's case this does not mean that he has become less interested in attending courses, quiet the contrary, he regards courses as a way of compensating for the lack of challenges in his daily work. Therefore, those workers who are about to "reach the ceiling" are moving into a new phase in which they naturally will start to develop skills which are not related to their current workplace. There is a strong awareness among the workers of the importance of such skills in relation to the external labour market.

Viewing the situation from the perspective of the firm, this trend can easily be utilized as a short cut to a new phase of "structured continuing training" which aims at increasing rotation. Again, a compromise seems to be emerging naturally between the firm and the multiple individual strategies.

Flemming is not a unique example of "the ceiling being reached". Another example is a welder in the pump group who has by now attended all the courses possible within welding. He has now announced that he wants to start on a series of courses to ensure that he "has two strings to his bow".

Example 2: To Rene working with assembly in the pump group the question of "having two strings to his bow" has been the primary driving force behind the series of courses that he has attended. He has attended less courses than Flemming, but several of them have lasted two to three weeks:

1. Fault finding, automatic plants I
2. Fault finding, automatic plants 2
3. Fault finding, automatic plants 3
4. PCL steps 1 and 2

Combined, these courses furnished him with skills equal to those of automatic machine repairers of major firms in the district. Therefore, his new skills are a good guarantee against unemployment.

Rene's professional career started as an apprentice at Balder. During the crisis in 1981 he left the firm and for a few years he worked as a fitter on natural gas stations. When this field began to flatten out in 1983 he returned to Balder. In all, he has now been working for the firm for eighteen years, is happy with his job, proud of his craft and is very satisfied with the working climate at the firm. In his case the continuing training has not been motivated by making a career or the wish to earn more money. He has a job which he is happy to go off to every morning, and this has much to do with the position he has achieved and cultivated at the factory.

As mentioned, "structured continuing training" in its present form is reaching its own limits, and the workers are generally starting to demand skills to have two strings to their bow . Therefore, in principle it appears to be easy in this phase to satisfy the individual strategies and the firm's needs for increased rotation, skills cutting across the professional boundaries, etc. However, there are several problems to be solved. As illustrated in the case of Rene and as we shall demonstrate in the following section, the individual worker has gradually moved to the workplace he wanted. Therefore, among the workers there is an inherent reluctance to move to arbitrarily chosen places. Second, training for a new job is time-consuming. Third, the factory is constantly subject to market-conditioned pressure which is inevitable in a finn that promises to deliver within one month. The idea of long periods of internal training by colleagues is a good one, but reality is that sudden rush orders occur every day implying that the worker involved in such activities is needed at his usual workplace. In such situations it is extremely tempting to withdraw the man from the workplace where he is being trained. So far the firm has not given in to this temptation because of the difficulties this would present in connection with external courses.

The Internal Labour Market of Balder: Careers in a Firm

Balder's "structured continuing training" programme has undoubtedly furnished the firm with an internal labour market whose skills and qualifications are above the average of the surrounding labour market. Interaction between the external and internal labour market might therefore present a series of fundamental problems. There are many reasons why the firm is not experiencing this.

First, locally the firm is known to be good (partly due to the continuing training policy) and to pay well, and when advertising for workers, the firm usually receives many applicants to choose from.

Additionally, the town has a limited labour and job market. People know one another. If a car mechanic applies for at job at the firm, he will from his current job already know several of the firm's employees to whom he can refer. Other channels are through sports clubs, shooting clubs, school boards, etc. In this connection honorary offices function as areas for building up such relations of trust which facilitate the mediation between supply and demand of labour. "People know one another across class differences, they have met in the sauna, at the swimming bath, etc." Apparently, the size of market towns facilitates communication through the social network when a firm is short of a man or a man is short of a job. Therefore, it is difficult to draw a line between the formal and informal system of employment exchange. People at the job centres and the unions often know one another personally which makes it natural to exchange personal favours. The local chairman of the Metalworkers' Union, for example, is a former machine operator at Balder, and he knows exactly which unemployed members would fit into the firm. He only needs one word from Balder's convenor who is on the board of the local union branch and whom he therefore meets every day. The Technical Schools and the AMU centres are other platforms of contact. Here workers of the firm may easily meet colleagues whom they might wish to recruit for their workers' collective.

The most important factor for the interaction between the external and internal labour markets is the way in which the firm's internal labour market works.

All jobs in Balder are first advertised internally before external candidates are considered. In this way the workers gradually change job in the horizontal division of labour in the factory. As a new recruit it is therefore generally possible to start at a relatively uncomplicated job, attend a series of continuing training courses and in this way qualify as an internal applicant when a more attractive job becomes vacant and is advertised.

It is often among the workplaces organized under SiD that jobs which require external recruitment arise. And these jobs are often seen by applicants as an opportunity to get a foothold. Skilled workers such as car mechanics often take such jobs to get on further in the system.

It is not an unpleasant experience to be a new man at Balder. The spirit of solidarity among the workers guarantees that a new man is trained and treated as a colleague. A car mechanic who started in a SiD job expresses it this way:

"They have been incredible skilful at teaching. That's for sure.... You really feel welcome. Compared with other jobs I have had, the workers here are very good at getting you into the work.... For the first two months I was excluded from the group bonus until I had got to know the tools.... There was always someone I could turn to for help".

Later on he moved to evening shift while his two colleagues worked night and day shifts. This meant that he could skip difficult jobs and do those he knew he could manage. When changing shifts, problems could be discussed.

He has later changed to a SiD assembly job in the pump group. His strategy was originally to get a foothold and use the internal job market to find himself a job as a skilled worker. Today he no longer pursues this strategy. Apart from the hourly wage, he does not find that there is much difference between the job functions of skilled workers and SiD members. The division is primarily based on conventions between the local representation. In his case changing from a job as car mechanic to one as "unskilled" worker has even resulted in a higher wage. By applying for the job in the pump group he has been able to work day shifts which is more important to him for domestic reasons than a job as skilled worker.

For a period, when the effects of "structured continuing training" started to show, the firm experienced a general run on CNC jobs when vacancies were advertised. At its peak about seven workers applied for such vacancies. Today these jobs no longer possess the novelty value and the pattern has become more normal. The system generally works in such a way that workers apply for jobs which match their personality, age, and family situation as in the case of the car mechanic.

Rene is another example of this tendency of gradually approaching the desired workplace. When he returned to the factory in 1983, he started as a miller, moved on to a drilling machine (both traditional machines) and finally acquired his present job in assembly.

"It doesn't mean much to me to stand at machines, not even those that are CNC controlled.... I don't find it interesting to press buttons".

The advantage of the new job is not only that he is responsible for assembling the complete product. It also offers him the chance of going abroad occasionally to do assembling or repair. And above all, the job is "independent".

"We actually run it autonomously; the only outside pressure we are subject to is that of meeting deadlines from the planning department. Apart from that we can assemble the orders as they fit into our rhythm of work".

Rene emphasizes that the job is not piecework. An important part of the assembler's job is to see to that no defect pumps leave the factory. Finally, he stresses the advantage of pump assembly not being organized in shifts meaning that he works normal working hours.

Many factories are characterized by an informal hierarchy between workers occupying more or less lucrative jobs. Many of the conditions for such a hierarchy are present in Balder considering the way in which the internal labour market functions. But such an informal hierarchy is continuously counteracted by the shop stewards at Balder. Continuing training does not automatically imply individual bonuses, and nothing indicates the existence of a system of, for example, good and bad piecework, good and bad jobs. One reason for this absence of a "hidden

hierarchy" among the workers is that "no differences are made between people" . One of the best qualified CNC machine operators recently asked to be relieved of evening shifts for domestic reasons. Neither the shop stewards nor the foremen wanted to change the rules of his workplace even though everyone wanted to keep the person. He has now found a job out in town, but the firm has prevented the first seeds of personal privileges from taking root.

In short, the impression gained is that individual differences lead to different aspirations for what type of job the individual worker wants. Through horizontal mobility it gradually becomes possible to combine ambitions and opportunities. This happens through a continuous but slow rotation process which gradually ensures that the workers get the workplaces they want. This form of rotation is contributing to the resistance among workers to the rotation desired by production management.

The gradual horizontal mobility in the factory is a dominant pattern at Balder; however, the same inherent mobility seems to apply to vertical mobility which makes it possible for the workers to cross the formal division between workers and white collar staff, i.e. to climb the ladders of the formal hierarchy.

The traditional route for crossing this boundary has been the job as foreman. In Balder this traditional career opportunity for competent skilled workers still exists. But it is changing. In the old factory divided according to functions, the management generally selected the skilled worker who had demonstrated specific competence at handling a certain speciality of machining. Today such skills have been integrated into and mixed with the production groups, new technology has been introduced, and the workers have through continuing training become capable of acting independently. Combined these factors make it difficult to identify the personal skills required to fulfil the job as foreman and hence to select the right persons.

Mogens was recently appointed foreman. When we visited Balder in 1985 he worked as an apprentice machine operator. At that time he was simultaneously undergoing training for the diploma in technology (teknonom). Having left school with a General Certificate of Education he wanted to qualify himself for a job involving both practical and mental skills. After having finished his period of apprenticeship he worked for six months as a machine operator on shifts. He then went to the planning department for two and a half years. In connection with the change-over to the new range of pumps he was offered the job as foreman and for a short period he was Villy's apprentice. Villy had been foreman for a number of years and was about to retire. The journey through various jobs in the factory via the planning department is an important feature of the new career pattern as it provides potential foremen with an understanding of how the overall organization functions.

But the job as foreman is just one example of how different jobs on the factory floor combine with other jobs in the organization and continuing training lead to vertical careers. At the same time it is a pattern which fundamentally changes the significance of the hierarchy.

The present quality controller at the factory is a former CNC machine operator from the pump group. His understanding of critical machining problems enables him to communicate with the individual worker about technical problems in such a way that the worker does not experience professional boundaries.

Another machine operator now closely collaborates with the development department and is in charge of the practical aspects of building prototypes, carrying out tests, etc. He served his apprenticeship together with many of the other present machine operators with whom he has made friends. Therefore, it is only natural that he involves the other experts in getting the product adapted optimally to the machines and possibilities of the individual workplace; having this network of friends in the factory also enables him currently to keep up with their experiences why he continuously is able to improve product and production process.

A third worker is now employed as a member of the sales staff, but is at the same time responsible for the valves as he was part of the team that designed them. Originally, he worked as a welder in the factory. He was a competent craftsman, attended a number of courses and was hired to draw lines in the drawing office. He acquired great experience in valves. The sales department gradually left it to him to visit customers that complained about valves. He was so good at this job that he even succeeded in selling several valves to dissatisfied customers which is why he was gradually transferred to the sales department. Balder is now going to develop a new generation of valves, and this person is therefore expected to act as a member of the development team again.

The storekeeper is a former machine operator. He moved from various jobs as machine operator via a job in the quality control unit and incoming goods to his current job when it became vacant.

Four persons work together in the production engineering department. Two of them are engineers recruited externally. The other two are recruited internally among machine operators and their jobs involve close interaction with production. One acts as "internal consultant" to machine operators who need to discuss programming problems with an intelligent person.

In connection with the introduction of ISO 9000 the firm has hired a quality officer. He too is an old acquaintance who served his apprenticeship in the firm. After having finished his apprenticeship he operated a grinding machine and later on worked as an assembler. When the factory was restructured in the beginning of the 1980s he became an assembler in the pump group. He had always wanted to "continue to study". Despite being restricted by the usual institutional barriers such as "wife and house" he managed to fulfil his dream to study for machine technician. After having completed his training he returned to the firm to perform an optimization task in the valve group. And this task led directly to his present job.

A final example is that of the "apprentice of the nineties" - an apprentice who has served his apprenticeship according to the revised principles for this education which, among other things, has prolonged its duration to five and a half years. In addition to two other firms, his period of apprenticeship at Balder has comprised

training in the factory, in the drawing office of the development department, in the production planning, and in the production engineering department. In addition to normal apprentice work in the factory he has been allowed to work with the CAD system, produced a lay-out of the plant and been involved in the quality control work. It is evident that such a training programme is a threat to the existing order of jobs being related to specific and permanent workplaces in the firm. He is educated to cross the boundaries and to fit in between white collar staff and workers, between the offices and the factory floor and between different functions. The firm has used this hybrid to define a job which runs across the boundaries. The "apprentice of the nineties" is formally employed in the development department, but he works in the factory testing and adapting prototypes of new products to production. His ambition is to maintain this type of work involving both intellectual and manual skills. In the long term he envisages a job in production which also entails working with production management.

His ideas of a future job also represent a new organizational structure in the firm. First, a workshop without foremen but manned by people who currently work at improving the flow and reducing the costs and time involved in setting and re-setting the machines. In this connection he believes that his crossboundary insight into the various areas of the firm might be put to a test. As we shall see, he has captured some of the trends which will characterize the ideas of the firm in the period to come. In this way the completely new profile of apprentices merely reinforces organizational trends which are already widespread and which will become more pronounced; partly because the broad training of the "apprentices of the nineties" already has had its effects on the "traditional apprentices". It has become customary at the firm not merely to let the apprentices circulate among different parts of the factory; today they go through a training programme including drawing office, production engineering department, and planning department.

The internal careers are not regarded as class betrayal among the workers. The awareness of the difference between people who pursue careers for personal reasons and those who make a career on account of their professional skills is great. Most white collar employees with a background as machine operators respect and are respected by their former colleagues. On the other hand, externally recruited employees with a purely theoretical background are often found to have difficulties in learning how the firm functions. Apparently, they find it difficult to respect the workers on the floor; they rarely bother to listen to the workers' opinions which the workers find foolish since they see themselves as experts. Staff members of a purely theoretical background are ironically referred to as "little professors", and power certainly does not rest with the "little professors". Either they become "socialized" or they soon feel the urge to look for another job.

It is an open question whether the intermediate level between management and factory represents enough jobs to meet the demand for challenges which have emerged from the continuing training race. Flemming, the CNC machine operator, has ambitions to become a programmer. To him the boundary between white collar and blue collar worker does not present an institutional divide which can be used to accept or decline a job. In his opinion there are white collar workers and blue collar workers who know what they are talking about and those who do not. He

expects his job to comprise challenges that give him the feeling of continual personal growth. If he feels that this is no longer the case at Balder he will soon be looking for another job elsewhere. In short, the great question for Balder is whether the future promises challenges which will allow people of the new calibre room to display their skills.

Future Challenges for Balder's Robust and Flexible Organization

It is not easy for managers to initiate changes in an organization as flexible as this one. What can be done to progress further? Are any improvements possible? What needs for organizational change might exist in a system which is already capable of coping with new challenges in an elegant way?

The new pump generation for example was introduced without much hullabaloo, left the existing organization of labour intact and was implemented without major investments in new production equipment. Through invisible channels workers in production were involved in the development of the prototype. At the subsequent meeting they too delivered input to the brainstorming" corrections which should make the new products more production friendly. They were consulted as a group of experts which consequently made it easier for them to fit the new products into the workplaces they knew so well.

Another example of how changes are implemented without changing the organizational structure of the firm is of current interest. In 1991 the firm launched a project which should guarantee it certification under ISO 9000. The project merely consisted in interviewing the individual worker about his tasks: in what order did he do the different jobs and how often were they performed? These interviews on prevailing practice were subsequently codified and presented as a manual on how to handle the different tasks. But this has not resulted in any changes. The most conspicuous feature is perhaps that maintenance of measuring equipment has become a routine practice. But on the whole, the project did not give rise to any changes in the work process apart from having it documented.

It posed no problem for Balder to have its workers inform the staff about their working "secrets". Both the workers and the management wanted to achieve certification. In return, management has not tried to exploit the opportunity of knowing, for the first time in the history of the firm, how the individual workplace actually works.

Thus, the firm is characterized by adjustments that do not result in actual changes or conflicts. Naturally, there are touchy issues; but they are related to the delimitation of competence which always creates problem when skilful people work together.

Usually, the touchy issues are referred to as "problems of drawing the professional boundaries" but the version is totally different from that discussed in general nationally. When people are bracketed in a system which assumes that they do

what is necessary, clashes are inevitable. The skilled workers grumble about the engineers of the production engineering department interfering with things that are none of their business. On the other hand, the skilled workers set a limit to what tasks they will accept to be performed by the unskilled workers.

Especially new recruits find it difficult to balance respect for workplaces with the demands for filling ones workplace flexibly. They have to be "socialized" to understand a number of different behavioral codes. Furthermore, the day-to-day business may prompt the foreman to persuade a new worker to go beyond the boundaries. A newly recruited SiD member, for example, was asked to work at someone else's workplace due to heavy work pressure. Out of pure and simple helpfulness he was so eager to do his new task well that he did not realize his mistake until everything turned quiet around him. The other workers had simply turned off their machines and gone to the canteen on a protest strike. Not that they accused the worker of having done anything wrong. Their action was turned against the foreman who by asking the worker to take over someone else's workplace had intimidated the person who rightfully "owned" that workplace. In short, Balder demonstrates traits which are more characteristic of professional organizations (institutes of higher educations, hospitals, and consultancy firms).

But an occasion to consider measures that might lead to changes has emerged recently. This year Balder has succeeded in negotiating an investment budget of 4,5 million kroner with the British group. Together with the vast growth in turnover this constitutes a natural basis for asking the question: "Where do we go from here?"

To proceed a number of work groups have been established with the aim of answering the question: How do we satisfy the growing turnover which we hope to create? The group work primarily involves the production teams.

The overall aim is to increase the team's independent responsibility for flexibility, quality control, production planning and deadlines for delivery. When the firm introduces a new generation of computers the plan is to install terminals in the individual production teams so that the present planning department only have to engage in broad planning while the production teams themselves will take care of the detailed planning tasks. Through this process the manager hopes that the individual worker will assume responsibility for the production and gain insight into the costs and financial results, in short, that the teams gain such direct, financial influence that they become interested in currently optimizing production, assuming responsibility for rationalizations and reductions in the work force. In its widest sense the idea entails turning the individual "teams" into "independent financial units" which can ask other units for services, e.g. the technical staff, the planning department, sales, etc. This will change the factory from being a system of mini-factories into a system of independent mini-firms under the same roof.

The visions seem to be capable of solving the evident paradox that the worker wants greater challenges than the hierarchical organization can fulfil. It is interesting that the manager's vision seems to comply with the individual wishes among the workers. The "apprentice of the nineties" wants a job close to production which at the same time enables him to continue working on the theoretical aspects of

production control. Many job combinations are possible to fulfil his ambitions. Within the existing system it would be most evident to place him in the production engineering department and periodically to let him work as a consultant to the individual production groups. The close connection between the workplaces of a team and the production engineering department would provide the detailed knowledge, based on the worker's experience, which makes it possible to make the most effective investments.

This kind of future development is not perceived by the foreman in the pump group as a threat. If a larger part of the work of coordinating the interaction between the firm as a whole and the individual group is left to the group and if the team more actively engages in current quality improvements and mutual communications, he visualizes the foreman in a completely different role. The foreman becomes a "cheerful uncle" whose primary function is to assist the workers and offer his advice when asked. His main task will be to collaborate with the workers in the group and listen to what they want. Actually, this future role is nothing but a translation of the advice he got from his predecessor in the job:

"Take it easy. Think about the man behind the worker... Get to know your workers. Show them respect and ... don't press them too hard. It may very well be that someone is late three days in succession; but he may have many different reasons."

Today the foreman does not have the time to develop strategies for the teams. By strategy he means among other things knowing what tools, gear, and machines could be improved. Today his primary job is to ensure "cash flow" and a rising turnover. Among the more tangible future goals is the wish to reduce re-setting and setting-up time by 50% following a widely heard motto: "We can't sell resetting and setting-up time to the customers". The machine operators, who have skilfully and ingeniously tested the limits of their machines, are annoyed by having such a goal thrust upon them. Setting-up and re-setting time can easily be reduced by 50% on the condition: "That the firm starts to invest in the newest equipment". The workers have a clear idea of the equipment that would solve the tasks and make re-setting faster at the individual workplaces, but it costs money. With the new investment budget it will apparently be possible to combine the two aspects. At the same time, the new equipment will create a package of challenges which the workers want.

The most difficult balance will probably be to obtain resources for the training programmes which will make the workers move across the workplaces; however, from the workers' perspective, the time has come. But the issues cannot be solved locally. It is part of policy at a higher level. As long as Balder is capable of providing good financial results and satisfies the budgets negotiated with the British group, it can do as it pleases. If financial results are poor, negotiations become more critical. It is a balance between allowing for the short-term productivity loss during the period when the workers are training each other across the workplaces in the production teams. This is necessary in order to achieve the long-term gains of increased rotation, better adjustment of capacity, and the possibility of substituting workers during illness.

If the production teams are turned into profit centres, this balance between the short- and long-term effects do not become easier. In addition, when the transformation of each team into independent activities has been completed, the production teams are inevitably going to ask: "Which tasks are we better able to solve ourselves and which do we wish to buy from the while-collar departments?" Would a production team perhaps get the idea that it would be easier to strike the balance between short-term and long-term development requirements if the group did not have to include overheads for a personnel manager, a production engineering department, and a development department? The marginal changes thus seem to be able to create major changes in Balder's very organizational structure.

Balder in Interaction with the "Welfare State"

"Structured continuing training" has in a very fine way combined the strategy of the firm and the personal strategy of the workers enabling both parties to live in a volatile economy. The parties have understood how to use the institutions of the Welfare State to weld together a social contract. And the Welfare State through the survival of the firm has not just increased the tax base with jobs in Balder itself, but in its many subcontractors as well. As long as Balder continues its present policy, it will act as a "training factory" which helps to raise the quality and attractiveness of the labour market and hence facilitate future advanced forms of enterprises.

This fine interaction has not been achieved through a great vision of the society of the future. Balder neither regards itself as a pioneer nor as an exporter of a new model. And locally the firm does not promote itself through comprehensive training schemes or by participating in local industrial policy. Rather, its policy focuses on the firm's mini-society. It provides jobs. The firm is currently employing 20 apprentices some of whom are being trained under the new, experimental vocational training programmes such as the "apprentice of the nineties" mentioned earlier and the new commercial courses of training (academic economists and export engineers). If this is a revolution, it is a quiet one.

"Structured continuing training" has been constructed in a way which has not required active initiative as such. First, the internal coalition between the shop stewards and the managing director has removed any feelings of ambivalence among the middle managers, and the middle managers themselves are rather a result of than threatened by the activities. Externally, it has merely been a matter of making use of the institutional system. The courses existed at the training institutions, and public support for pay compensation, etc. fitted in nicely with the firm's needs.

In the new phase, which the continuing training activity is just entering and in which mutual training may become essential. many of the institutional forms of support which have favoured "structured continuing training" will disappear. Thus, a more critical balance is required between what the continuing training system can offer and what has to be provided in terms of internal training. The costs of internal

training cannot easily be transferred to the public sector, which means that the training budget may exceed the limits laid down in terms of higher personnel expenditures.

And yet, other local firms have constructed models which piece the Welfare State and the firm together in another model, which Balder can perhaps use in the new phase. The model consists in using "flyers" from the queue of unemployed. The procedure largely seems to be that the firm together with unions, the job centre, the continuing training system, etc. finds an unemployed person who is entitled to receive public pay subsidies during employment in the firm. This "flyer" first attends a series of courses at the AMU centres and/or technical schools in order to attain all the qualifications relevant to the field he wants to fly in. In the firm, the "flyer" is placed for instruction at the workplace occupied by the person who is the actual target of the whole operation. When the "owner" of this workplace has "created" his substitute (the flyer), he can himself move to a new place for internal training. After having completed his training, he will replace his teacher, who then moves to another workplace for training, etc.

If the pay subsidy from the public sector is included, a "flyer" will only cost Balder around 120,000 kroner annually. If each of the three production groups are to have a flyer, the costs can be kept below 400,000 kroner.

It is unlikely that the British group will merely sign such a budget item. One way of solving the problem is to enter into a social contract implying that the worker relinquishes a well earned pay rise in return for the employment of three unemployed. If it is possible to construct such a contract, Balder's continuing training policy can be expanded to comprise some of the unemployed.

In other words, a possible solution to the pending dilemma of continuing training in Balder may also function as a means of remedying the social problems emerging from the division of the labour market into a dualistic structure.

A Continuing Training System in the Melting Pot: Competition and Cooperation Between the Local Training Institutions

The town in which Balder is located is an old privileged town with proud traditions in training policy. There are numerous vocational training institutions: a large technical school offering a wide range of training courses in the iron and metal sector, an internationally oriented College of Building, an AMU centre which is among the largest in the country, a commercial school, an agricultural school, a large Adult Education Centre, various day high-schools, and a technical college.

Each of these institutions is naturally aiming at a traditional set of training objectives; but the volatile economy and the way in which firms try to adapt to it by changing their labour organization constitute a challenge to each institution to take on new tasks. By introducing a series of reforms within the vocational training system the State has tried to stimulate the training institutions to engage in new

tasks, partly by opening up to and making them more dependent on "enterprise covered by revenue" . During the first phase the institutions have experienced the new situation as a transition to competition and battles over market shares. The institutions are experiencing the demise of a model through which they tried to meet training needs from particular narrow target groups in the system characterized by a well defined division of labour. When this division of labour is broken down as a consequence of the changing division of labour within firms, this is experienced as the breaking down of a cartel and a shift to the most merciless form of oligopolistic competition, a future in which everyone is at war with everyone.

However, other factors are militating against such an atomized system and favouring a system of mutual cooperation. First, the training institutions are woven into a network of coalitions with trade unions, employers, and professions, which ensures that market opportunism has to be based on and neutralized by social bonds and relationships of trust. The strategies do not rest with atomistic actors but with coalitions of interests. Second, there is increasing awareness of the fact that the institutions are equally responsible for the development of the local society and that they are a means of creating a labour market which is attractive to firms in need of skilled human resources. Therefore, it is obvious to the different coalitions that the short-term efforts even though they are often characterized by conflicts - are part of the common long-term efforts to fulfil this societal role. The common efforts have not yet materialized in terms of a joint programme, and the actors do not even view the efforts as a new model or a new system in which the many institutions and interested parties will occupy new places in a new division of labour.

The closest that we currently can get to identifying a new system is to examine the strategies of the coalitions, how they define the problem and how they visualize the possibilities of incorporating elements and institutions outside the coalition into a larger system. Departing from these questions, we will below examine two coalitions: the alliance between skilled workers and the technical school; and the alliance between the Specialized Worker Union (SiD) and the AMU centre. A third party which we have found interesting to study is the Adult Education Centre (VUC), which was created recently and which has not been linked to traditional shareholders. As a piece of no-man's land, all involved parties are likely to woo the VUC. Does VUC's integration into the local system of training institutions represent any systematic trends?

Against the background of these studies of subsystems, we will try to draw a few broad lines of the system currently in the melting pot.

The Alliance between Technical School and Skilled Workers

The problems encountered by the skilled workers, illustrated here by the local branch of Dansk Metal and the Technical School primarily concern sufficient resources to cover the needs of the local area for the continuing training of skilled workers. The need for more resources is a result of increasing demands for a decreasing supply of course places.

The demand for training places reached a completely new level by the end of the eighties. Balder's change-over to "structured continuing training", illustrates what has happened. When Balder wanted to reach an agreement on training in 1987, only two other firms in Denmark could be imitated. In 1992 five to six large local firms had signed training agreements. And these agreements have been negotiated even before the effects of the last agreement are beginning to show, that is the effect of the new provision stating the right to establish training committees and to participate in continuing training. The effect of agreements and other incentives to increase continuing training activities doubled the level of continuing training per member of the local branch of Dansk Metal in just a few years in the eighties.

TABLE 2 Number/proportion of members attending continuing training courses. Dansk Metal local branch.

Year	Number trainees on courses	Trainees as % of numbers
1985	323	14.6
1986	530	23.1
1987	670	29.4
1988	690	30.1
1989	528	22.9
1990	553	24.0
1991 April	182	7.9

Source: Dansk Metal

The table only shows the continuing training activities mediated through the local branch. Growth peaked, as the table shows, in 1988, when about one third of the members had attended at least one course in a year. The drop after 1988 is largely due to the shortage of courses offered.

"We could send twice a many for continuing training if only there were room for them on the courses" (Chairman, local unit of Dansk Metal).

In order to be able to serve the members as well as possible the local branch of Dansk Metal has for a number of years allocated a part-time employee to help the members to trace vacant places on courses throughout the country. In this way the greatest possible efforts are made to accommodate a member or a firm that suddenly wants a particular course.

As mentioned above, these efforts have only succeeded to a limited extent and for a falling proportion of the courses for which there is a demand. The union is aware of the fact that training agreements are one of the reasons why more people want

to attend courses, and that there is consequently a major shortage of places; but at the same time, the training agreements are seen as the solution to the problem. Training agreements in the locality will make it possible to plan the courses in such good time that the local union branch can provide its members with a larger slice of the course cake at national level. Balder represents the ideal situation here since the firm has its course plans ready so early that it is easy to obtain places. However, the long-term continuing training agreements also have a political effect. They demonstrate that the need for continuing training cannot be fulfilled by the resources allocated by the public sector.

Therefore it is considered of strategic importance for the trade union branch to press for more training agreements. It has, as mentioned earlier, been successful with a number of large employers who have become natural alliance partners in the common efforts to make continuous training a "social contract" from which members, firms, and the local labour market benefit.

The motive of the trade union branch for attaching such great importance to training agreements is its perception of continuous training as the best means of protecting their members in a volatile economy. The attitude towards other types of job security is sceptical. "White-collar-like employment contracts" which Dansk Metal advocates at a national level, for example, is regarded as a soother. Experience has shown that a longer period of notice simply means that lay-offs are speeded up; on the other hand there is no doubt that those workers in whom the firm has invested extensive continuous training are the ones to be laid off last. At the same time the trade union agreements collide with those who believe that differentiated continuing training will also lead to differentiated pay systems, as proposed for example by "Copenhagen" with the "pay system of the nineties". It is seen as the fastest short cut to quarrels and turmoil at the workplaces, where there is a need to increase the collegial spirit to make the new flexible forms of cooperation work. Training agreements which ensure that the skills of the majority are upgraded will inevitably make it easier to fight for general wage rises in the individual firm.

Many small enterprises have resisted signing training agreements. They prefer to see continuing training primarily as a private matter for their workers and are not interested in structuring this activity too rigidly.

Small subcontractors and repair workshops receive orders from day to day, and it is therefore difficult to plan continuing training in the long-term. They never know when capacity and manpower will suddenly be needed. The fewer employees a firm has, the more difficult it is to do without a man.

"But jointly we have to find a solution to the problem. Simply because the ISO 9000 work in large firms will result in demands for certified subcontractors. And this in turn will manifest itself as a need for continuing training on quality awareness, etc."

The interesting aspect of these considerations is that in order to solve some of the problems of the individual members, the trade union is forced to adapt a policy which makes it possible to solve some of the problems facing firms operating in a volatile economy: it is difficult to predict when you can do without a worker. But the

solution is right in front of the trade union branch. With a growing number of unemployed members it is not only possible to cut the Gordian knot for the firms - it is also possible very actively to mediate jobs. By cooperating with the Technical School to train "flyers" who can be employed as temporaries when firms need to let some of their workers attend continuing training, the two birds can be killed with one stone. To the small firms, the flyer scheme and structured continuous training are not alternative but complementary measures.

It should be stressed that the construction of such a system could become epoch-making. Not only will the workers' continuing training activities allow the unemployed to become involved; this system also works as a means to avoid a dualization of the labour market, i.e. a gap in training between firms with high and low skill profiles. The local metal trade union branch may have had a brain wave by incrementally following a strategy which solely aimed at ensuring employed members an agreement on continuing training.

However, these future possibilities form a glaring contrast to the present-day reality which, all other things being equal, adds to the dualization of both firms and labour. Firms that have entered continuing training agreements are, for reasons earlier mentioned, able to get accommodation for their workers at the expense of other firms. The strong demand for courses generally implies that unions and technical schools through an administrative practice, the legal basis of which is doubtful, squeeze out the unemployed. Unemployed members are often faced with the fact that they can be accepted at a wide variety of courses offering training in skills that are not in demand.

Within the current framework of the technical schools there is nothing that forces the local Technical School to break with this pattern. Within this framework, which is agreed locally and centrally between employers and the relevant trade unions, the schools have generally achieved high status. The main activities are connected to the training of apprentices within the basic vocational training system (EFG). The only problem in this relation has been to find relevant trainee jobs for the apprentices.

Continuing training is a secondary activity among many other activities. The local Technical School has, for example, in recent years invested both energy and resources in internationalization, and has therefore perhaps not tried very actively to fight for the supply of courses to match the demand. Offensive resources have been directed towards global rather than local objectives. The phase in which the school had to fight for sufficient resources to invest in CNC technology and have its teachers' qualifications upgraded has been long passed.

The school has witnessed increasing demand for its courses in recent years. This is a result of four combined features of development. First, the school has had its number of annual lessons cut centrally from 11,000 lessons in 1987 to 7,500 lessons in 1991. Therefore, the school shares the Metal Workers' Union's wish for more resources. Second, the experiment with local enrolment has been abandoned in favour of a national, central system. Consequently, local short-term adjustments and adaptations are no longer possible. Third, like a chain reaction the local firms

have changed their organization of labour resulting in a growing demand for the school's services. Fourth, a general change seems to have taken place in relation to the traditional pattern of continuing training. While skilled workers previously used to attend continuing training to become e.g. foreman and technical engineer (teknikumingenior), the economic situation, the heavy burden of paying for a house, and family obligations as such, has resulted in that the skilled worker who wants continuing training tries to accomplish this in terms of combining a series of shorter courses. Ironically, the latter two reasons combine very well as the firms no longer advertise for people whose continuing training activities aim at climbing the hierarchical ladder since the hierarchy is currently being rearranged.

The school has reacted to this situation in a paradoxical mixture of comfortable impotence. Impotence because the situation actually calls for developmental efforts at the same time as it is characterized by a shortage of resources - there is no "slack" - why it is merely a matter of "keeping body and soul together". The situation is comfortable since it is easier to plan the course year knowing that the demand is sufficient enough to ensure the school that it will receive sufficient enrolments to implement all the courses offered. Some may be tempted to say that the unemployed constitute a comfortable buffer making it possible to offer courses which match the qualifications of the teachers very well but not the demands of the firms.

This does not imply that the technical school is detached from the problems of the local area. It has regular contact with the AMU centre in connection with exchange of facilities, machinery, and equipment. And the school reacts when it is asked to cooperate in a typical contexts. The school has on a number of occasions collaborated with the AMU centre on continuing training courses which were adapted to the specific needs of certain local firms. A course was arranged for all employees in production control and cooperation in a local machine factory. The intention was to boost the firm professionally and culturally. This course was later on followed up by a course in quality awareness. The mere size of this task required that AMU and the technical school collaborated - 300 employees attending a course at the same time.

Another example is a series of courses designed in collaboration between the job centre (Arbejdsformidlingen), the Metal Trade Union (Dansk Metal), the Trade Council (Erhvervsradet), the Employers' Association, and the Technical School. The courses were organized to meet a claimed lack of labour capable of handling the CNC-controlled machines. Dansk Metal and the job centre recruited 12 unemployed who attended the whole series of courses in CNC. Eight of these found work after the courses. Currently the school is working at establishing "flyer groups" in connection with the project mentioned earlier in which Dansk Metal is involved.

Measured against what is possible, the strategic efforts made in the alliance between skilled workers and the Technical School seem to be of limited ambition, although, as mentioned, it may have major unintended effects. The low level of aspirations may perhaps be due to the fact that the system is working already. "Metals Efteruddannelse" (Metal Workers' Continuing Training) is well developed with a comprehensive and varied range of courses within almost any type of

continuing training that can be desired. The local shop stewards in the firms are often in a strong position and have considerable backing among their members. The members have been brought up to have pride in their trade and are therefore easy to motivate for continuing training. It is therefore possible to focus on the problem of getting the employers to enter into training agreements, as such agreements can be used to force the State to devote more resources allowing for an expansion of the system.

The Alliance between SiD and the AMU Centre

On the other hand, this alliance is characterized by high ambitions, complex challenges and high activity. In its political programme for the nineties the Unskilled Worker Union (SiD) has given top priority to continuing training. In this context, SiD has employed training officers both at central union level and at branch level. At local level an increasing amount of time is devoted to training issues. And there are good reasons for this. SiD's political training tasks are enormous. Not only does it have to overcome obstacles among the employers, conflicts with the skilled workers but insufficient motivation for training of their own members are equally strong barriers.

Ninety percent of the members simply do not want to go back to school. As a means to persuade them to do so SiD uses both the whip and the carrot. The whip is particularly used to motivate unemployed members as these are under an obligation to enter into a sequence of training. But SiD also have to persuade the teachers to change their teaching methods, to abandon class teaching. The experience is that it is a matter of helping the members to clear the first hurdle. When they have attended one course and overcome the worst anxiety, they are easier to motivate. But the task requires intensive efforts by the shop stewards.

For SiD the training question inevitably leads to clashes with the skilled workers. With the new forms of labour organization implying that the individual worker is expected to work across previous boundaries, SiD sees a new chance of creating more coherent forms of continuing training; but this will inevitably result in increasing conflict with the skilled workers. When functions are integrated, new conflicts between the SiD members and the skilled workers are bound to arise. A traditional pattern has for example been for the skilled workers to do the setting-up jobs and sometimes act as operators. The SiD members were used as helping hands for heavy set-ups, to fetch materials from the stock, clean machines, and occasionally, particularly in the case of large production runs, as simple operators on the machines. The jobs of the SiD members were largely defined in residual terms. And many continuing training courses have been defined as training for these residual jobs, e.g. in transport, as machine operators, etc. The forms of flexible labour organization integrating different jobs will break this pattern. And SiD knows that many local firms are strongly interested in integrating jobs, including those handled by unskilled workers, e.g. in connection with the current work on ISO 9000. Long-term, systematic sequences of training for SiD members will undoubtedly result in the integration of tasks that have so far been the domain of skilled workers.

Consequently, negotiations of local continuing training agreements are going to be tough in the future.

This adds new dimensions to the complexity of tasks confronting the SiD shop stewards. Therefore, the local branch has organized courses for its shop stewards on how to design and negotiate continuing training agreements, how to plan continuing training, etc. Also, the branch is collaborating with, for example, the marketing manager of the local AMU centre that has started to offer the firms consultancy on the planning of training. The experience is that many firms in questions of training policy act as if they had a training agreement and training plans; but the agreement has not yet been formalized. It is SiD's task to motivate the local shop stewards at the firms to "strike" and negotiate formal agreements and plans. SiD's motives for wanting training agreements are far more complex than those of the skilled workers. Paradoxically, one of the motives is somehow to ensure those members who are not interested in continuing training. These members are facing an increasing risk of being laid off when the majority of workers in a firm enrols in the training race.

For these reasons SiD sees the task of hammering out training planning as being very complex. Each firm requires a specific strategy. In some firms the skilled workers are in such a strong position that it would be foolish to try to negotiate an agreement without involving them. In other firms Female Workers' Trade Union (Kvindeligt Arbejderforbund) is in such a strong position that a coalition is only natural. Thus, the training plans will require different actors depending on which alliances are the most important. In firms such as Balder it is natural to extend the alliance to include the technical school and the AMU centre. In those cases which have involved a large number of unskilled men and women, the Adult Education Centre (VUC) has played an important role. In one case, for example, the agreement entailed a ten-week course in general subjects such as English and social studies in order to raise the general level of competence among the unskilled workers who had been exposed to very strong decentralization of competence and responsibility in the transition to flexible forms of labour organization.

The AMU centre is a very active partner - and the most important partner to SiD. Since 1981 the centre has tried to change its interaction with the local area. The centre has a standard range of 182 different courses. Previously it merely posted brochures to the firms and waited for people to enrol. Today the centre has a marketing consultant who contacts the firms with the purpose of identifying, in collaboration with them, which courses could be combined to form a series of courses aiming at different types of unskilled workers. Whereas in 1987 only 17% of the participants in courses came from and returned to a job, today the figure is 83-87%. Five thousand trainees pass through the local AMU centre annually, and therefore a considerable number of firms are adopting more goal-oriented continuing training practices. It is estimated that the centre is regularly in contact with 60% of the firms in the area.

The consultant from the AMU centre collaborates with the firm's training committee or the personnel department. Together they design series of training courses for the individual worker. As a result of this collaboration the AMU centre has achieved far

closer contact with industry and the Technical School. The lead is important for the AMU centre since the Technical School is regarded as a competitor for public development resources used for developing new courses.

Even the planning of training has become an economic factor. The work of producing a job description and a continuing training plan for the individual worker costs 400 kroner. The plans lead to a system of courses in which maximum use can be made of the existing planned courses at the AMU centres and special courses can be tailored to satisfy the needs of the firm within existing courses. The gap between publicly financed planned courses and tailored courses thus becomes so narrow that it is feasible for the firms to finance the special parts of the courses, which enables the AMU centre to engage in a large variety of activities within "enterprise covered by revenue". The planning of training alone is yielding the AMU centre a revenue of 250,000 kroner in 1992.

But the cooperation is demanding. A condition for its success is that there are people in the firm, preferably a training committee, who gradually gain insight into which purposes the system can be used for. In order to improve interaction with the training committees, AMU organizes courses for members of the training committees, representatives of the workers as well of the employers. The courses are aimed at creating actors who can contribute to push the system beyond the limits applicable at any time. Simply by interacting, it is possible to obtain the pressure that is essential for the AMU centre to grow. And the activities have generated an enormous growth. The local AMU centre is around twice as large as the area entitles it to be. The range of courses is greater than in the largest city in Jutland or just as large as the entire range offered on the island of Funen.

In its development work the AMU centre faces the problem that most managers lack vision of training policy. On the other hand, there are a great many perspectives at "grass roots level". Fortunately a firm has two doors: a front door and a back door. It is often easier for the AMU centre to get into contact with the management by using the back door to get hold of the shop stewards, who can then persuade the management to let them in through the front door.

However, the activities have gradually had the effect that a local network is arising, a network that can start to formulate a far more active training policy profile for the district. The contacts in all directions make it possible to formulate needs for training activities which lie outside planned courses and well established series of courses, which the existing system is equipped to satisfy. The needs, it is believed, will arise for more individually oriented training, which leads to courses of extremely great variety for small groups. By intercepting this with "enterprise covered by revenue" it becomes possible for example for the AMU centre to finance the development of new types of courses which can be incorporated into the usual system of state-financed planned courses, etc., if a major need becomes apparent. A local development effort of this kind will, however, encounter great resistance from sector and trade committees at national level. In this context it is viewed as being of great importance to establish close coalitions with the training committees at the firms, whose members AMU tries to influence through the courses. A development strategy of this kind is seen as a clear response to the changes taking place in the

labour organization of the firms, and to the new "abnormal" career pattern that workers will experience to an increasing extent in the future.

Experiences from working with the firms in the area show that the new flexible forms of work characterized by increased decentralization of tasks and responsibility to the workers are a widespread phenomenon. Recently the firms have even turned the issue into a competitive parameter. Since wages no longer constitute an active factor in attracting competent labour, many firms have realized that this must be done by offering completely new forms of jobs. In return they have created workers who are very loyal and active in the development of their firm which is why the need for training does not arise merely as a consequence of the individual worker's strategies. On the other hand, the AMU centres realize that it has become important to the firms to cultivate their image in relation to the local population. Good workplaces make people keep an eye out for vacant jobs.

Another effect is that the AMU centre is gradually turning into a kind of information office for the exchange of information on good workplaces and competent workers. People attending courses keep an eye on each other. If somebody attracts favourable attention, participants from a firm looking for workers establish the contact - and often the worker in question changes job. There are even examples of firms that let some of their workers attend courses with the sole aim of hand-picking workers who fit into the firm's culture. In some cases they are old acquaintances who have perhaps got a job as ganger and now use their knowledge of teachers, etc. to pick the competent ones.

Dependency on and integration into the local network are thus of decisive importance to the AMU centre's ability to function and establish coalitions. Therefore, this aspect has become an important criterion when the school recruits new specialist teachers. There is a growing awareness of the fact that many issues are dealt with when people meet in sports clubs, shooting associations, golf clubs, swimming baths, etc. And if the prophecy on social networks as a mediating body for local system building has not yet gone into fruition, this policy will materialize as a self-fulfilling prophecy.

The Local Adult Education Centre

The local Adult Education Centre (VUC) has gradually developed into a large institution. Its primary task is to create the framework which allows adults, who have left the public school system without any formal exam, to return to the system to make up for their lacking qualifications through passing this exam. Furthermore, the Adult Education Centre organizes teaching which prepares the students for Higher Preparatory Examination (HF) or Genera Certificate of Eduction (Studentereksamen). The target group has primarily been unemployed of little formal basic school education. Hence, the course programmes offered by the Adult Education Centre (VUC) and the AMU Centre are in certain areas overlapping. Approximately 2,000 people are attending courses at the centre in the period from 8 a.m to 11 p.m. Converted into full-time students this corresponds to around 1,100.

The day-time students are often unemployed women, while the evening courses are attended by people who are undergoing continuing training in their spare time.

Being an independent institution of no strong coalitions or interest groups, other institutions and interest groups have wooed the VUC to become part of their strategies. Apart from the "off-the-shelf products" of general subjects, the VUC has cooperated with other continuing training institutions in creating special courses.

The first incremental efforts were made in collaboration with the AMU centre. Many of the workers who attended courses in soldering and assembly in the electronics industry found mathematics and physics to be insurmountable obstacles. In collaboration VUC and AMU designed a course to relieve this distress - AMU being responsible for the practical aspects and VUC for the theoretical aspects. For the participants the combination had the advantage that they qualified for the next step of training activities in both systems.

Particularly the initiatives to create a joint counselling system for the unemployed under the UTB scheme (see later), the interaction between the many local institutions, including the VUC, has become a general phenomenon, which also satisfies special needs of the firms. One firm, for example, needed continuing training activities and combined language teaching in English with computing. The VUC was able to run the language part while the computer centre managed the computing aspect.

A third example: the Technical School was asked to run a course on ISO 9000 for unemployed architects, building designers and engineers. The course required language teaching in German which was subcontracted to VUC. The Technical School was therefore able to instruct on ISO standards in German and in this way qualify the unemployed for possible employment in firms which operate on the German market. In addition to language teaching, the VUC was responsible for teaching subjects such as culture, transport, and economics.

A course on imports/exports has been developed and run in cooperation with the Commercial School, the Technical School and the VUC. Apart from these, three other institutions and four exporting firms collaborated on identifying requirements to be satisfied. The final design of the course comprised: international databases, transport, economics, law, communication, language, etc. According to the principle of availability, the series of courses was based on resources available in the three training institutes. VUC was responsible for teaching English and culture. The Commercial School taught economics and law while the Technical School was responsible for the rest of the subjects. As an example, a local forwarding agent who was experienced with these markets, was hired to teach communications.

In collaboration with the day high schools, VUC has designed a course for (employed) local home helps. Among other subjects taught, VUC is responsible for psychology.

The common feature of these examples is that VUC does not play a leading role. The main subcontractor is generally another institution. However, the examples

reveal something new among the institutions - a widely spread and changing pattern of interaction has developed where roles as main supplier and subcontractor are played in alternating constellations. The two dominant alliances have not even yet formulated the strategy described here, but viewed from the perspective of VUC, the outlines of the emerging system become clear. What is arising is a flexible continuing training system in which institutions can combine and re-combine their services and tailored courses to the specific needs of firms, employees and unemployed.

Interaction between Interested Parties and Institutions: Towards a System

Today the market for continuing training has become a market of many suppliers. The firms receive offers from SiD, Dansk Metal, the Technical School, and the AMU centre. So far, courses have been peddled in mutual competition between the various parties, even though they have formed part of varying combinations of collaboration. The novel aspect is the current attempt to coordinate the market.

An ambitious plan is, for example, to let joint consultants collaborate with the firms right from the initial phase to facilitate the design of cross institutional training schemes. This might lead to a Benetton system for continuing training.

Another initiative aiming at tacking together packages of courses for special market segments has been taken by setting up sub-sector committees. Here the parties meet across boundaries of institutions and interest groups to solve the problems of a specific sub-sector. The idea of "flyers" or a corps of temporaries was originally initiated by these sub-sector committees. And such ideas require political cooperation.

The idea of flyers and temporaries is obviously good, but it also implies significant complications such as striking the difficult balance between the labour market parties. The scheme requires a number of contracts, partly between different trade unions and schools, and partly with the workers who are employed as temporaries. The training institutions have to start the process by furnishing the temporaries with the right skills which requires that the institutions know the needs of the sub-sectors. The flyers must be trained to undertake tasks in the firm which requires temporaries while the permanent workers are attending continuing training. But if the training institutions solve this task satisfactorily, another delicate problem arises: the worker for whom the flyers is substituting feels that his job is threatened in proportion to the competence of the substitute. Obviously, the paradox can be solved by eliminating the opportunism of the employers, e. g. by letting the shop steward negotiate terms of pay, notice, etc. with the individual firm. But this brings the system threateningly close to being in conflict with the labour legislation's basic provision: the right of the employers to hire and fire. The example illustrates the system-building tasks facing such sub-sector committees.

However, even though the system of main suppliers and subcontractors is in embryo the interdisciplinary demands are already giving cause to question the

appropriateness of the institutional boundaries. If, for example, a consultant in collaboration with a trade union, local stop stewards, and a firm's management has pieced together a course package involving several training institutions, each institution must fulfil its task as actively as possible. It is a demanding task to interact with firms in the continuing training race; course classes, for example, have to be pieced together by gathering participants from many firms, trade unions, etc. as only a few firms are able to do without twelve workers at the same time. In other words, the individual institution must be geared to function in close collaboration with many firms, several trade unions, other training institutions, etc., in order to be able to remove the boundary between the institution and the local environment. VUC, for example, will have to change its practice of scheduling courses a year ahead which implies profound changes in deeply rooted routines.

In this complex task of getting the training institutions and the firms to interact in all directions the SiDs have led the way in making network cooperation function across the boundaries of unions, unemployment committees, unemployment benefit centres, the Employers' Association, the job centres, the municipal employment secretariat, the secretariat of the Labour Market Board, evening school associations and commercial schools, high schools, VUC, AMU and the technical schools. The occasion of these efforts has been a wish to give better advice to the unemployed, but the activities have created a system of contacts which can also be used for combined negotiations with firms to make them enter agreements on continuing training. The large, broad network meets four times a year to discuss the current problems. A long-term unemployed person acts as secretary of the network.

The first project to be realized was a joint counselling centre for unemployed offering coordinated information and advice on training opportunities. The jungle of possible training activities for unemployed is vast and there are different ways of combining very fitting courses, but there is a great need for advice that cuts across the institutions. Another project in the network is to make the schools offer course activities that are in demand and not only activities that are determined by their current facilities and subject teachers.

The AMU centre, having the greatest experience in interacting with the firms, has yet another idea for cooperation. When the efforts to establish training committees have succeeded, the next phase can start. Training committees from several firms interacting with one another will make it far easier to provide an adequate basis for setting up complete classes. It would be much easier for the AMU centre to develop new types of courses if the firms joined in coalitions sufficiently large to demand the establishment of new courses. Such coalitions have already been established within a number of areas and from the AMU centre's perspective it is the best way of making the local system operate as an entity.

Coalitions of firms cooperating on training policy will also force the rest of the system to engage in cross-boundary collaboration. The AMU centre, for example, views it as its primary task to initiate continuing activities for the unemployed and unskilled; but the aim is to compose training courses which ensure that their students continue on training courses for skilled workers at the technical school.

In other words a system is in process initiated by many institutions and interest groups. And their efforts are very likely to be crowned with success. All the strategies have been thought out on the basis of an overall strategic perspective for the local town.

The Metal Workers, the Female Workers' Union, and SiD all view continuing training policy as the means of establishing a local industrial strategy. The town has just lost its largest employer and is facing great problems in keeping its miniature version of Silicon Valley going. In this situation there is a consensus that the town must furnish its workers with such skills that other firms are attracted to place their activities in the area.

GLUM BANK - BETWEEN HIERARCHY AND LOCAL CONTEXT: BANKING ADVISERS IN THE LOCAL BRANCH OF A LARGE BANK CORPORATION

Introduction

The case focuses on the banking advisers within a branch office and investigates the way in which they handle the general turbulence characterizing the financial world, and how they respond to competing demands from the local context and head quarters. The case is not only reporting on Glum Bank's formalized continuous training of staff, but also examines how local branches of national educational institutions are used for this purpose.

Glum Bank is one of Denmark's largest banks and covers about 50% of the market in terms of balance-sheet totals. Formerly the bank is part of a holding company but all of its activities are controlled.

Glum was formed around the turn of the year 1990/1991 by a merger of three of the largest Danish financial institutions. Today, Glum Bank has 12,600 employees and a balance-sheet total for 1990 of DKK 319,000m. The domestic department has a staff of 9,395 of whom 8,336 are directly working within the branch network. At the end of 1992 Glum had just under 480 branches (representing slightly less than a halving of the number since the merger), distributed between 46 departmental areas.

Glum is divided into four divisions with a number of shared staffs and service units. The four divisions are: besides Domestic, which is responsible for the branch sector, Merchant Bank (serving very big customers and investment), Commerce (foreign currency and securities) and International (foreign service and control of foreign branches).

Responsibility for the personnel- and training-areas lies within the divisions, chiefly with the line managers. But these activities are largely planned and executed in close co-operation with the personnel- and training-departments, which are responsible for overall planning of the bank's policy and strategy within this area. Each division and departmental area is thus linked to one or more personnel consultants in the personnel and training departments, who back up in a purely practical way the execution of the individual courses.

The branch network comes organizationally under the Domestic Division, as already mentioned. The network is divided into 46 departmental areas. In most areas there is a triple area management consisting of an area director, a business manager and a private customer-manager. Each area has a central branch in which the three managers are located. The management within this branch carries responsibility within a relatively wide scope and also decision-making powers for the area's branches with regard to lending, closing down of branches, etc. Appointments,

updating training and recruitment are carried out by the people responsible for personnel for the area, in co-operation with a personnel consultant from head office.

With regard to trade unions, Glum Bank, like a number of other banks, is organized around a group of personnel in the head office, who take care of trade union policy, negotiations for the divisions and the branch network. A very co-operative atmosphere exists traditionally between the bank management and the staff group, and only in a few isolated cases have there been disputes between them. In the last few years, however, the frequency of disputes has increased slightly, owing to redundancies and attempts to increase hours of business, for example. The employees in this group are engaged and paid directly by Glum and have no tasks other than the trade union work.

Structured Training in Glum Bank

Within Glum's Domestic Division there are two forms of training structure. On the one hand, structured training which prescribes the structure for the individual course, and on the other a structured training model is used which shows the sequence of the individual courses.

Behind the structured training sequence lies a combination of job training and course blocks over time (see figure below). The principle in the sequence is far from new, since on the whole all banks have carried out in-house training as a division into local on-the-job training and common updating training. However, in Glum's training department it has been found to be a problem that - particularly in periods when the branches were under pressure of work - courses and job training did not supplement each other in subject matter (i.e. the students worked with types of tasks different from what was studied on the courses). With the structured training sequence, it is now required to be assumed for each course block that the course participant has done work on an everyday basis with particular types of tasks, and likewise after the course will be working with other particular types of tasks. The individual course blocks are in this connection divided into repetition of the job tasks which the participant has done in the daily job training, and (theoretical) study of the tasks which the participant will have to work with in the subsequent job training-period, respectively.

The structured training model determines the sequence in which the individual training courses must be carried out. Basic training - also called "the broad main path" - is a training requirement for all staff (except certain specialists). It comprises a basic student training course and also more general bank training leading to appointment as private customer-adviser.

After basic training there are a number of side-paths which can be taken, provided there is a job vacant within this functional area. Most participants choose added adviser training, specializing in private customers or business customers. Business

adviser-training is divided further into three levels according to complexity and funding-limits.

The Broad Main Path

Training as banking adviser is a relatively new requirement for new employees. Up through the seventies and until the beginning of the eighties, many office assistants were engaged to do simple tasks such as till-work, with no expectations that they would have upgrading training. With the introduction of the adviser-requirement there is now a further requirement that the people recruited must have qualifications and desire to have updating training, at the Finansskole (the common basic training school for financial institutions) and subsequently on the bank's in-house courses. Moreover, the increased requirements for employees' knowledge of banking have resulted in student recruitment being the only recruitment that takes place within the bank sector itself. Only specialists for the head office are recruited externally, often from institutions of higher education.

At the same time, the training background required for students has changed over the last five years. Previously, the requirement was either the Higher Commerce Diploma Examination (HH), the Higher Preparatory Course (HF), Initial Training (EFG) within the Commerce and Clerical sector or the General Certificate of Education (university entrance examination), and at the same time gaining top marks was often decisive for the selection of staff. Today, primarily Higher Commerce Diploma-holders are taken on, and students secondarily, because it is thought that people with this background find it much easier to learn the technical content of bank work. In addition, the weighting of top marks has been substantially reduced; but the correct attitudes-requirement is emphasized.

Student training extends over a two-year period and is governed partially by an agreement between the employer- and employee-organizations. Employee-organizations, in particular (formerly the National Union of Bank Employees and the National Union of Savings Bank Employees - now 'Finansforbundet'), forced this through in the seventies, out of a fear that their jobs would be squeezed out of office clerks and other cheaper labour.

Student training is structured around weekly course-days over 28 weeks and is provided by the common basic training school (Finansskolen) of the financial institutions. Instruction takes place at the local commercial schools and is therefore not under control by the bank. However, the trainers are in many instances from the banking sector or from other financial institutions. At the same time, the students are under instruction within the branch, given by one or more members of the permanent staff. Thus, in the first two years there is alternation between general theoretical instruction and practical tasks within the branch.

Following the two-year student training course there is a two-year general bank training course. The purpose of this part of the training is to strengthen the employees within the fields of service and sales, credit-processing, investment

advice and pensions advice. The courses are structured here around 2-3-day residential courses and are held internally by the Glum Bank. In addition, the students do correspondence courses and similar private studies.

After the general bank training, the last requirement for training is a continuation course for banking adviser to private customers. The object of the banking adviser-training is to ensure that the employees become competent, with independent responsibility for customers, to give complete advisory service within the private customer-field. The training as adviser is based upon a number of different in-house courses within such fields as sales, housing advice, pensions and credit.

Side Paths

After completion of basic training, the possibility is offered (and is also expected to be taken) to either continue within the private customer-field or to commence business adviser-training. In addition, it is possible to specialize within more limited areas. These are not included here, however.

For training within the two adviser-areas, it is necessary that vacant posts should exist within the area concerned. The background to this is the active alternation of the adviser training courses between shorter residential courses and daily practical work with more complex customer groups which have to be served within these job categories.

Business adviser-training is divided into three levels, which express to some extent increasing complexity in the tasks involved, but are also an indicator of greater powers to appropriate funds and are therefore decisive for the size of customers to be served.

The training department and the bank's management emphasize structured training that is to make the staff more change-orientated and mobile than is the case (in the management's view) today. Great emphasis is laid upon the customers being offered individual service - which it is not thought possible to offer fully today as too many employees are considered to carry out their job too routinely. It is hoped that the structured training will train staff for more varied job execution as a result of the close follow-up in the courses.

Secondly, the purpose of structured training is to raise the standard of both the general knowledge and the specialized banking knowledge of the staff. A problem which has emerged mainly as a result of the customers' standard of education rising over the last 10 - 20 years substantially higher than that of the bank staff. Within the training department, it is stated bluntly that the staff simply are not clever enough to serve their customers - which takes away the bank's credibility as a serious financial partner.

Thirdly and finally, there are the problems of mobility which, it is hoped, will be eased by the continued training programmes; partly through the staff becoming able to fulfil several different functions, as mentioned above, and partly by linking job function and training more closely together. By means of this linking, a clear signal is given that the necessary continued training within the bank will often result in transfers, because in practice there will not always be vacant jobs which match the training given in the branch where the employees are currently working.

The management therefore wants the structured continued training to be able to create, particularly within the branch network, greater flexibility, professional skills and greater willingness and understanding regarding transfers. The structural training system is seen as an important means of making the mega-bank function as one integrated whole.

The Branch Area of Herning

This case study focuses upon the central branch in Herning, which is situated in one of Glum's largest branch areas, in terms of finance.

The central branch was introduced by the area director as follows: "...the business house was founded in 1868 - at that time it was called Hammerup-Herreds savings and loans bank - where we had a market share of 100% and it has gone steadily downhill ever since...". This must not be interpreted as a complaint about difficult times (the opposite is the case, in fact), but as strong emphasis on the local history of what later became a branch office of a Copenhagen bank. The central branch is also called the bank's head office at the local level and the departments and divisions in Copenhagen are conceived as staff functions for the branch.

The "locally-based" principle is explained, moreover, by the area management's requirement of staff autonomy (of advisers, in particular). The area management's attitude is that efficient banking advisers are needed for a proper customer service. Emphasis is on customers being able to get answers quickly in response to enquiries, without having to wait for advisers to get guidance or permission from their superiors or from head office. This policy is reinforced further by some employees being allowed to specialize within the branch's most important areas of work, so that it is necessary only in rare cases to contact head office for expert assistance.

The branch has 70 employees, 7 of whom are private customer-advisers and 9 business advisers. The remainder are divided into staff functions, investment and canteen staff. In 1991 the branch spent just under 2 million DKK on training, most of it on travelling expenses and board and lodging in connection with in-house residential courses. Regarding direct course costs, basic training was the biggest item, amounting to more than 50%. The costs of external training courses, such as HD (Bachelor of Commerce) and "merkonom" accounted for 25% and the remainder was for in-house training.

For 1992 the training budget has increased by just under 45%. The background to this increase is a marked increase in in-house course activities, which have risen from slightly more than 100,000 to just under 1 million. The increase is due to greater concentration upon sales training of the adviser group.

One of the generally most striking features of the merger for the branch network has been branch combinations into larger units; but in the Herning area this conversion has not been of any major significance. Some branches have been closed down, but the area management has retained the old savings- and co-operative-bank philosophy regarding the strength of small units. Thus, the biggest branches do not have more than 25 employees, and the number is usually 10 to 12. One example is the Herning centre where, before the merger, there were a total of four branches in the pedestrian precinct just under 1 km long. Only one of the three is closed today, and the reason why one has been taken out is only that two of the branches are located next to one another. Thus, in terms of customers the centre branch has only about 6,000, and the two other branches each have about 4,500. This size is untypical compared with several other areas, where the branch sizes amount to as much as 12-13,000 customers owing to more significant combinations. But arguments in favour of the small units have been excellent: they have shown the highest profitability within the area.

Advisers are the category of employees who have direct responsibility for customers, i.e. each adviser has a customer portfolio and is fully responsible for ensuring that these customers are served as well as possible. It is the advisers' function to draw on different specialists so that the customer has only one contact person in the bank, as a general rule.

The tasks of private customer-advisers consist mainly in handling loan applications, setting up various savings accounts and budgets. The loans vary widely according to whether they are small consumer loans or loans for dwellings or cars. Savings schemes likewise show big differences, especially because there are various tax rules and rules relating to grants connected with the different accounts. In connection with customers' saving, over the last 10 years there has been increased interest in speculation in securities such as participation, bonds and shares. However, the weakening of the Danish stock market has reduced interest in this considerably, and at the same time the bank has been very reluctant to offer this kind of products because a number of customers have lost considerable sums on these speculations.

Finally, budget planning is an important tasks for advisers. Budget accounts combining all of the individual customer's commitments on an account were introduced during the eighties, thereby providing much greater clarity for both customer and adviser and making increased demands for "complete" solutions from the advisers. It is no longer sufficient for them to know the individual products; they must be able to give the customers a complete advisory service. Simultaneously banking technologies have changed in nearly all the financial institutions. Since the early eighties Glum has tried to limit the - in pay terms - highly resource-demanding functions within the private customer-area, such as disbursements and making up accounts, and to strengthen the more complicated services. This re-prioritization of

the supply of services has been expressed technologically in several areas. All advisers have had their own PC's - connected to a common network installed since the end of the eighties. The PC's thus enable a lot of information to be provided on products, interest rates, fees and courses, while at the same time functioning as basic models for drawing up budgets and other customer services.

On the customer-side, Dankort (payment card) and bank cash dispensers were among the facilities introduced at the beginning of the eighties in order to limit the work involved in simple transactions. Although there was great scepticism about this technology in Denmark at first, the degree of use of the self-service technologies has grown very fast.

In the last couple of years telephone service has been introduced. This telephone service enables the customers to move money from one account to another, in addition to settling balances.

The pattern of contact between employees and customers has thus changed considerably as a result of these technologies; but no clear picture of the effect has emerged. The bulk of the customers still agree to maintain contact with the bank as a financial service agency - either by still carrying out simple transactions within the branch or by continuing to seek advice about financial arrangements. However, a small proportion of the customers have involved themselves more in their own private finance than previously with the technological aids, and have taught themselves more and more of the services which the bank employees can offer them. This latter group's contact with the branch is therefore considerably limited.

Changed Customers' Requirements

Changes in customer contact have resulted in more stringent demands being made on private customer-personnel regarding understanding of their job. Particularly when the new technologies began to be adopted more widely, several employees found that it was difficult for them to maintain a convincing customer service. Cústomers' expectations and requirements from the employee's advice increased significantly in this period with the result that the employees found it difficult to meet the demands. In the immediate present, however, it was difficult to see whether the criticism which the employees encountered from the customers was justified, or whether the customers' expectations were too high. Among the employees, explanations given for this were equivocal; but the great majority expressed some self-awareness in this respect. The private customer-manager acknowledged the temporary lack of competence, with the following comment:

"...the training-demands on the employees have increased in step with social developments. I shall say that, with our training, we are trying today to be - to use the popular expression - at the leading edge of progress, when up to the mid-eighties we perhaps lagged behind slightly and took the training which social development had long decreed we ought to ...."

From Generalist to Specialist - and Vice Versa

For people coming in from outside, the immediate reaction to the transformation of the last few years is that bank work has changed from being all-round activity to being highly specialized, owing to new technology and the new product areas. There is disagreement between the bank employees over this division, however. One of the private customer-advisers who thought that the work had become more general expressed it as follows:

"...I thought that we were more specialized then, when we had something called a safe-deposit; there was someone who handled these deposits. Then we had deposits which one person handled and loans and then there were securities and bills of exchange. Nowadays, there is something called "bank adviser", who has to know everything; then we have some jobs for specialists, of course, who must be able to go right down deep - which you can't do when you are a generalist..."

Another adviser supported the statement by pointing out how important it was to strengthen this all-round knowledge:

"...all of us must be able to handle between 90 and 95% of all transactions, so there can be some quite specific things concerning pensions and housing for which it can be nice to have a specialist, to confirm the things. On the other hand, for this the specialists have to be 100% up-to-date or know where the latest new information can be obtained. For me, it is a highly over-specialized job. Naturally, you are extra good on this particular area; but it covers so much that you forget many of the other things; you have only one head and it cannot hold everything, of course, so I would rather be a generalist...".

As against the statements about a trend towards more generalized work, there is a group of advisers who view the developments differently. They are the ones who, since the mid-eighties and onwards, have become especially occupied with a particular type of bank work - housing, for example. Obviously, this group view bank advisers' jobs as specialist functions involving a general knowledge of advising private customers. It must be emphasized that those who have specialized have responsibility for customers also, i.e. they have a group of private customers who they have to service. Yet their customer portfolio is in many instances smaller than that of advisers who have not evolved a speciality.

In this way, two different views and types of bank adviser have evolved, namely those who think that one should know a little about everything and those who think that one should know a lot about little, but nevertheless be capable of providing total advisory service - by more actively drawing on colleagues' expertise, for example.

The existence of the two types is confirmed to some extent by the training patterns of the two groups. The specialists have consciously strengthened, more so than the generalists, their knowledge within one area, partly by taking the in-house training courses, but to an equally high degree by acquiring this knowledge on their own, by means of in-house note-taking or by borrowing books on the subject from the

local library. The specialists are in this way largely self-taught. Being self-taught is by far the most obvious characteristic of the specialists, and not - as one would immediately expect - their choice of formal training, in-house and externally. In training, all advisers have taken the same product- and sales-courses, on the whole - in addition to the compulsory basic training.

Another special feature of the relationship between training and specialization is that among generalists there are examples of having some training background for handling a specialist function. Thus, in the branch there was one adviser who regarded himself as a generalist despite being in the process of taking an external training course as estate agent, and who stated in this connection:

"I don't want to be a specialist - my reason for specializing in real estate is not that I want to become an estate-agent- but I had to start on something, and I am not interested in studying financing... I could not imagine not studying something... well, some study for HD (Bachelor of Commerce) but it is not possible for me to spend that much of my spare time studying - I don't want to risk being divorced on account of my work - my family fairly well appreciates my current study - it might result in a larger pay-check".

Another adviser who also considered the job to be a generalist-job, told a similar tale of hidden competence:

"...during my time in Horsens, which ended in 1978, I worked closely with an insurance company - it was also because, of course, we were arranging pensions schemes with a very big company. It was co-operation between an insurance company and ourselves. We got together and made estimates of how much cover there should be and what the premium should be. We worked together a lot there, so I worked with insurance at that time more than I do today..."

Thus, what might seem to be a clear distinction in competence between specialists and generalists, and also advisers and employees within the private customer-area, is far from simple, since it conforms not only to the training background or to other, special qualifications, but also to the employees' interest in, and desire to, work with the various private customer-jobs.

This competence-potential among the employees has created considerable flexibility - provided, however, that the staff's interests and wishes are fulfilled. Potential and flexibility among private customer-advisers thus constitute an extremely vulnerable basis for the branch and the bank as a whole. The whole of the bank's business policy in relation to private customers regarding standard of service depends more and more upon the advisers' ability to exploit their potential and flexibility in step with the increasingly significant reorganization of the bank and its surroundings, as mentioned earlier. This discussion will be treated in more detail below.

However, despite these different views on their jobs, the advisers function as a team. At their weekly morning meeting, or if they during their daily work are faced with situations they do not feel competent at handling, they consult one another and

exchange information and expert knowledge. At the morning meetings they take turns to lecture on the fields they have specialized in.

Business Advisers

Advising business customers differs in many respects from advising private customers, especially owing to the complexity of the advice and the larger volume of transactions. As has happened in the advising of private customers, here also a considerable change has taken place over the last 5 - 10 years.

The Market and Competition

Regionally, Central Jutland is distinguished by being an economic growth area and characterized by numerous small and medium-sized businesses. Glum's business customers in the Herning area are employed mainly - as is typical for the area - in textiles and clothing, furniture-making and metal-processing and engineering industry - all of which have had an increasing share of employment over the last 10-20 years. The very large export share is typical also of the enterprises within the area. As an example, it may be mentioned that textiles and the clothing industry had in 1981 a 71%-share of exports, and since then they have had an increase after the home market declined.

Glum's major competitor in the Herning area is a local bank. This bank was formed in 1965 by amalgamation of four smaller banks. At that time, the savings banks did not have access to business customers and there were no other business-orientated banks within the area; consequently, the local bank soon acquired very large market shares on the business side. When the savings banks combined to form a national savings bank in 1973 and in 1975 obtained permission to enter into business commitments, the picture changed. The savings bank - which had been very strong in the private customer-area, through the local savings banks - won for itself a market share of just under 25% up through the seventies. However, both financial institutions had the weakness of not possessing branches in Germany - which was strongly desired by many local business customers. Foreign business was therefore undertaken by South Jutland banks which had established themselves with branches in Germany.

After the merger to form Glum, branches were established in Hamburg and Frankfurt, and this has proved to be a powerful competitive factor. The business customers are thus equally divided today between the two banks. The other very large bank has only a very small market share in Central Jutland, but owns a considerable proportion of the shares in the local bank (25%).

Business customers within the area have traditionally shown a great deal of restraint regarding demands for more advanced financial products from the financial institutions. Right up to the mid- eighties, it was common for the overdraft to be the

only form of account used. With continually increasing exports and easier access to other types of financial products which proved to be less expensive than the overdraft, this situation changed considerably. Just before and especially after the merger, opportunities for exploiting effective foreign products and office-banking increased for business customers.

The Foreign Sector

In addition to the large export share among business customers, the reason for increased use of foreign products was that, owing to liberalisation of the financial markets within the European Community, it became cheaper and easier to carry out transactions across national borders. Up through the eighties, many new products were introduced, of which options, currency swaps and futures, for example, were the most significant. In Central Jutland, however, such transactions were not so widespread as among the big Copenhagen companies, in particular - partly owing to scepticism about the "advanced products" and partly because these financial products have often required very large transaction amounts in order to be profitable and in many instances have been used for the purpose of financial speculation.

On the other hand, accumulation accounts in foreign branches and co-operation within Scandinavian Banking Partners have proved more attractive within the area. Foreign accumulation accounts are used for payments from foreign debtors and payments to foreign creditors, thereby avoiding transfer fees and exchange losses in any currency conversion. The Scandinavian bank co-operation in which the bank takes part has brought more and faster transaction facilities between the Scandinavian countries. This co-operation has been very successful in the Herning-area, owing particularly to the textile industries' extensive trade with Norway, Sweden and Finland.

Two advisers in the Herning branch have specialized in the foreign sector. Besides keeping the other advisers up to date with changes in the area and serving the more export-orientated customers, their most important task is to maintain contact with the head-office's international division, which has overall control of products and transactions. As one foreign adviser said about the contact:

"...much of my work is learning whom to contact in the international division. If you do not know, you will spend a lot of time finding your way round the system; you have to know where to strike. We are such a large organization that if the first person you call does not really know anything about the issue or whom you must contact, you can actually start from scratch again. If you know the system you will have avoided making many telephone calls. Other things being equal, it is much nicer when you know people there whom you can get to help you...".

The marked growth of the foreign sector has resulted in a bureaucracy-like situation in the head office, with one part hardly knowing what the other is doing. And the specialists rarely had a more detailed picture of the branch network's requirements. However, the two advisers did not criticize the bureaucracy, but regarded it more

as a challenge, in that the head office's specialization meant that they could get much more varied help and advice once they had learned to operate within the system.

Office-banking

In addition to the foreign sector, office-banking has evolved into a new, special area. Office-banking is a consequence of the very significant technological development which was mentioned earlier. The office-banking system enables customers to control by themselves a large proportion of the simpler transactions - transfers and payments, for example - through PC's connected to a modem. In addition, customers can obtain information on foreign currency securities and other current changes on the financial markets by means of the system. For business customers it is an advantage financially to have the system installed, since it reduces considerably the charges which they pay. Particularly over the last few years, this has become more and more important owing to significant increases in bank charges generally. The system is installed with about 125 of the bank's customers, and this figure is expected to rise over the coming years.

Much is done to market the system, although the advisers risk to render themselves superfluous. However, the business advisers themselves want to change the adviser-function to one dealing with complex and detailed tasks leaving the simple tasks to the customers. This allows them to spend more time on the exciting tasks, and to the bank it is economically advantageous as it is too costly to use highly-trained personnel for simple tasks.

The individual adviser, who has attended in-house training courses and thus knows the system and its possibilities, is in charge of selling the system. In Herning two employees have been appointed as local experts on the system. This implies that the bank does not have to contact head office or the EDP-department when problems arise. As mentioned earlier, it is a matter of philosophy that customers are best served by local people, directly.

The branch therefore has advisers who have specialized in this system, partly by taking the in-house training courses, but also by reading various technical reference books on EDP from the library. These specialists are often used as consultants by the other advisers, who either take them along to visit customers or send them on their own to give good and accurate advice. One of these system-advisers had in this way established a number of contacts with the other advisers' firms and these firms had now started to contact him directly when they had problems with the system. However, the person responsible for customers who services the customer with the more direct financial arrangements is still responsible.

From Generalist to Specialist?

As discussed earlier for private customer-advisers, business advisers disagree as to whether the work has become more or less specialized. As mentioned, there has been a tendency for new specialized areas to evolve; at the same time, however, it is typical that most advisers have in fact been through so many different jobs in their earlier career that they now have very great all-round knowledge. Only the career of the younger advisers has taken a different course.

The old business advisers began their career as assistants and worked exclusively with private customers. After a couple of years they became advisers and in this way gained contact with major private and small business customers. There was no clear distribution of private and business customers. Their career often continued thereafter with posts such as senior deputy manager and designate branch manager, which, besides introducing them to the more complex tasks, introduced them at the same time to a number of local business associations and clubs such as Rotary, business clubs and the local football club. They became a distinct part of the local community in which they worked. Changing posts has virtually meant each time moving to another branch, but still in the vicinity of the Herning area. This gave them an insight into not only a large number of bank duties, but also different local areas. At the same time, they gained contact with many business activities which, owing to the business structure of the area, provided them with good sectoral knowledge in textiles, furniture and metal-using and engineering industry.

In the course of their career, many concentrated their work within particular areas - without, however, themselves regarding this as actual specialization but, as they put it, "a little extra job on the side". One of the office-banking specialists, for example, did this when in 1987 he took part in starting up the first systems, without knowing anything at all about EDP at the time. He taught himself EDP in his spare time and then began to use it more and more in his work; but he did not regard himself mainly as a specialist. Another, more significant example of these "natural extra jobs" is illustrated by an adviser who had chosen a rather unorthodox way to learn of the customers' "Lebenswselt".

"...I took a training course a couple of years ago, for which I enrolled voluntarily with leave from the bank. It was a three-week course, something called "textile production economics", and was held at the school for ready-made clothing production, where there are normally designers and ready-made clothing production engineers. The idea was also to acquire product knowledge of what the textile industry works with, and it was of interest because this is our main area here in Herning and Ikast. It was a matter of what you understand by calculations and what you actually do - not what in theory you do or should do. It is a matter of understanding the customer, the market and sales, etc., etc. - all of the basics for the industry. So firms sent salesmen-to-be and new people on the course to get an understanding of the industry. I had an opportunity to join them as a bank employee. What I got out of it was that when I see a business activity I know what kind of products go into the finished product. I can understand the thinking that goes

through your head when it is said that now it's cotton from Greece, because it has this or that quality, now we are concentrating upon the German market with this and that design. Then I can form a picture, so to speak, and say that it is also correct. The bank backed me up by allowing me to go on the course and they also paid my salary while I was there; but I paid for the course board and lodging myself. They said it sounded exciting, and if you can improve yourself that way...."

Although as an outsider you would call these two specialists they were not regarded as such by colleagues: "...we certainly have to know the area 100% but the others must also know a little, of course - 80%, say...". Only one of the advisers was regarded as a true specialist; it was the one who was concerned with agriculture. He was an agronomist by formal training and had worked in farming. He was considered to be something rather special within that area.

Thus, if you wanted to be known as a specialist in a certain field you would have to prove your worth; reading a few books or attending short courses was not a criterion of expertise. This local requirement of both banking knowledge and practical understanding had also prompted discussions with the "academic" specialists from the head office in Copenhagen.

"...Half an hour ago I was talking to one of our consultants in head office's credit department discussing mink. We have a lot of mink farms in this area. He had brought along a lot of statistics on the fur auctions in Glostrup and we were discussing whether a specific mink farm was doing well or poorly. Every time I asked him Some practical questions on the basis of what I had experienced from my visit to this mink farm, he would run through the statistics saying that the farm was either doing better or worse than the average Danish mink farm. Now, the average is poor, and not only the average but all of them are in troubles. Consequently such a customer will always be branded. The consultant concluded that the customer's business was too risky to engage in. I agreed with him adding that he had never seen a mink farm which he confirmed, but he had read the statistics. Here is a man who is highly intelligent and knows a lot about credit issues, but damn it - he has never been at a mink farm, and he is employed to advise people like me on whether or not to give a mink farmer a cash credit. He should be made to put on his rubber boots and a boiler suit and wheel the barrow for a week during the puppy-season; then he will be able to talk about mink, give advice and use his statistics..."

However, it should be mentioned that the bank management consciously applies the strategy of not letting credit advisers in the head office get into personal contact with the particular customer whose credit they are appraising, or in other ways disqualify themselves for performing this task. This is to ensure that the credit staff at the head office remain objective in their evaluations and thus avoid that the bank's portfolio becomes too dependent on individual economic sectors.

As already mentioned, the older advisers had been around in several branches and had several different jobs before they became business advisers; but this career has now changed for the new people in the department; they are far more purposeful about being business advisers:

"...business customers is what I wanted to work with, and I have been allowed to do that all the way right from when I was an assistant and up till now. That was where my interests lay; I realized that fairly quickly when I was a student. The challenges are bigger, there are more of them and it demands more from the individual employee to get into accounts and business situations...

After their time as assistant and the basic training at financial school, they started HD-studies and, just at the same time, the in-house training to be a private customer-adviser. On completing these studies they quickly found vacant posts as business advisers. Like the older advisers, they also had their extra jobs; but they did not regard themselves as specialists for this reason, either. One of them who had worked a lot with the foreign sector had applied for transfer to the credit department in Copenhagen for a three-year period, because he felt that, due to the foreign work, he lacked skills in credit management. He therefore thought that he had to do something extra in this field, so that he could keep up with the other advisers and also provide, in an acceptable way, full service for his customer responsibility-area.

However, despite the old principles concerning practical knowledge, the quick academic career was not regarded as a weakness by the older advisers; on the contrary, the young people had to have a proper theoretical basis in order to be able to provide the advice which gradually became very complicated.

"...the bank has proved that it has attached great importance (to training) by paying the expenses. When I taught at the business college I told the students that it was not a question of enroling for Financial School 2 and subsequently HD (Bachelor of Commerce) - it was a matter of choosing between the two and being aware of the fact that if you did not choose HD you would sidetrack yourself in the bank. Today, when we recruit new people they are told that they should study for HD, and we repeat it when they start to work for us: if you want to succeed in this world you must study for HD - if you want to work as a business adviser, at any rate..."

But there are also a couple of solutions to the problem of getting the necessary understanding of the practical aspects. The first one - which, it is thought, can be done quickly is on-the-job training with customers.

"... I think that, in order to be able to employ a person for the job of advising business customers, and also making decisions together with the business customer at a very high level, the person concerned should have had some kind of on-the-job training with a business enterprise. I suppose local agreements could be entered into with business firms for a person to go there for a fortnight or three weeks and be with executive employees. It must not be in the administrative part of the enterprise; it must be with those working on the shop floor, in production where the person can follow the processes through. In this way, you get an understanding of what the flow is like - which you can't do just by sitting down and studying and analyzing and finding out that the rate of stock turn has now fallen, and now debtors has risen, and all that; these are static items, of course ..."

The other way to acquire the practical knowledge is the so-called "foal-system". This has been used for some years. The idea is that the older advisers take the young ones with them when they visit customers; but they call the customer in advance and ask if they may bring a new man with them. In this way, the young people learn how to conduct themselves with customers, learning at the same time a few tips on how to find out how the firm goes about inspecting machinery, or seeing how much dust there is on the store-shelves.

However, the young people's career-paths differ from those of the older in one important way since they have never tried to manage a branch. They know that the job of branch manager demands more than knowing a few areas on the business customer side. The fact that the small branch principle has been adhered to within the region, makes it necessary for them to know a little of everything within the bank in order to manage it, i.e. be able to do both the banking tasks and the management tasks.

Thus, although everyone has to know something about all of the different issues within the bank, the department functions like the private customer-department, as a team in which everyone complements one another. If one person has found an extra job, this adviser is also expected to keep himself up to date with everything that takes place within this speciality. Many of the advisers therefore spend between five and ten hours a week of their spare time keeping themselves up to date. No-one consideres this regrettable, but rather as something quite natural to enable them to do their daily job "properly". When something new takes place within the various specialities which the person concerned thinks that everyone should know about, it is introduced to the others at a morning meeting. If there is a need to use a colleagues' expertise for a particular customer, both call upon the customer, and in some cases the colleague visits the customer alone.

There is a risk of taking over customers from one another in this way; but such competition has not occurred even though in theory there is nothing to prevent a customer changing from one adviser to another and thereby playing off advisers against one another. However, the advisers clearly take the view that when, as a specialist, you visit one of the others' customers, you never discuss prices - only the adviser responsible for the customer does that. It is a fixed rule once an adviser responsible for a customer,he or she alone is entitled to the customer. Advisers therefore also require one another, as mentioned earlier, to know at least 80% of all of the others' areas. In this way, with loyalty and mutual professional requirements, team organization has been made possible within the group.

Local Continuous Training Strategies

The increasingly volatile settings within which Glum has to operate, with keener competition and an increasing amount of financial innovations (new products) has resulted in greater awareness and more structuring and control of continuous training activities, in both head office and branch.

From the standpoint of the head office, which is in charge of the whole training strategy of the bank, the structured training courses and the function model are one way to ensure preparedness for change, competence and mobility within the whole organization. However, the strategy also emphasizes decentralization of as much as possible of the responsibility for these three elements. This balance between central control and decentralized responsibility seems to breed both harmony and disharmony in the relationship between head office, branch and individual employees.

There is close agreement between the head office and the branch's management on the importance of preparedness for change. The changes in the financial markets and competition are in both places found to be significant. On the other hand, there appears to be some doubt as to in which direction the markets and competition are moving. In particular, the composition of the portfolio, centrally and locally, is a sensitive area (and with it the debate on which markets and types of customers to aim at) Crudely speaking it is a question of whether to concentrate upon the textile industry, which is concentrated in the Herning-area, or spread the portfolio more widely so as to become independent of the ups and downs of individual economic sectors. Thus, harmony exists in the conception of preparedness for change, but disharmony as to which forms of changes one must be prepared for.

There is also general consensus in the importance of strengthening the qualifications of staff but it can be difficult for the branch and the individual employees to acknowledge that they are not clever enough to meet the head office's requirements. A not surprising reaction is therefore often to blame head office for not understanding what it means to work in a branch and, conversely, to blame the branch for not knowing all of the bank's activities .

The mobility requirement is likewise complicated, because the branch management shows great willingness regarding rotation of employees who are not functioning very well, but transferring of able employees naturally enough does not encounter great acceptance locally. For the individual employee, expectations regarding mobility vary widely. On the one hand, being able to move from the branch is perceived as an advantage; on the other hand to move from one part of the country to the other often causes family troubles.

This harmony and disharmony which arise from the purpose of structured continuous training has resulted in different individual and local strategies by which staff, branch management and head office handle this harmony and disharmony in the structure training. Strategies that consequently effect the functioning of the system.

Branch Training Strategy

As a reaction to the training strategy established by head office, the area management in Herning have evolved a local continuous training strategy. The core

idea in this seems to be to build up an autonomous unit in which employees through courses and work experience are to be trained to act on their own initiative enabling the branch to be an efficient local bank. The "locally-based" principle is likewise important in relation to the other local bank, the biggest competitor in the region. The local interpretation of the continuous training strategy is reflected in several ways such as: team organization including the weekly morning meetings as one way of ensuring local autonomy; allowing the advisers to search out their own extra jobs simultaneously expecting them to assume full responsibility for individual customers. The team organization has emerged unintendedly as a way of solving the paradox between specialized and generalized knowledge. Furthermore, delivering short lectures at the morning meetings is a way of training the employees in interpreting and transforming general information and knowledge - from the bank's in-house courses, for example - into locally "relevant" information and knowledge. Student training courses at the Finanacial School provide the same kind of "interpretation training".

Although the training model and the process is making ever-increasing demands for in-house training activities, and is thereby covering more and more areas, the "merkonom" and HD requirement is being retained in the branch. In content, ultimately there are no great differences; but the external training courses are a way of providing the employees with local understanding and integration. The participants on the "merkonom" courses are mainly the same private customers and smaller businessmen who are served by the bank's private customer-advisers . By allowing these advisers to take part in the "merkonom" studies, they thus gain contact with and understanding of their customers, in a more varied way than they do through daily contact in the branch. The same is the case with HD (often in finance and accounting), which for business advisers gives them an insight into their customers' working methods and ideas of business operation and financial arrangements. By allowing trainees to accompany, simultaneously with their theoretical training, the older experienced advisers on visits to customers, and sending them for on-the-job training with customers, they acquire a practical feel for the reality of their customers. With more official meetings, receptions, etc., which require the bank to be present, they have at the same time an opportunity to take the young people out with them or send them out alone, so that they learn the local culture and in this way become a known face in the town.

In order also to give the in-house training as local a character as possible, several of the specialist teachers at the commercial schools and school of finance are employed within the branch, or from one of the other local banks which likewise want instruction arranged locally. However, this form of local orientation is not very precisely directed towards the branch itself or the departmental area, owing to the requirement of generality which lies in the training and to the centrally-controlled student rotation which is practised after the first two student years.

Although the branch's strategy does not work directly against the official strategy, a certain opportunism can be detected. Through being extremely conscious of the activities' local relevance and importance, the training initiatives (and the associated guidelines) from head office are undergoing a process of marked adaptation to the branch's needs.

Staff Strategy

At the individual level, strategies for continued training can also be pointed out in relation to the branch's local continuous training-strategy. Within the departmental area in Herning, three different types of careers and training can be distinguished within the adviser group.

The category of people who apply for jobs in banks nowadays are in many instances fundamentally different from the earlier generation, owing to the banks' changed opinion with regard to job security and job opportunities. The generation which applied to the bank before them did so in order to obtain lifelong employment and to get a job with fixed working hours not involving "homework".

The prior conditions for the group of young advisers who are in the bank today are quite different. Only two years after their engagement as students, they will have been moved to another branch, often in a different departmental area, so that they have got used to mobility at an early stage. At the same time, the general rise in the standard of education has prepared them for further training. This is due not only to the increased demands on the part of the bank, but also, to a far greater extent, intellectually that they want to keep up with their former school-mates who are applying increasingly to get into the places of higher education. The HD-training course is one way for them to match their friends' progress.

Dismissals within the branch have for the young people been a clear signal that they must not reckon on getting a job for life. Nowadays, they can lose their job for less than stealing from the till and they therefore have to make their position secure. They do this by, for example, very quickly and purposefully seeking the extra jobs which the older advisers spent several years finding. They also do it by rapidly acquiring job versatility through in-house and external training so that they have the necessary banking qualifications to seek, at an early stage, a number of the attractive posts. Owing to their mobility, they can occupy positions faster than their older colleagues who are more dependent upon home and family, and will therefore often be preferred.

At the same time, in relation to the departmental area's local policy, it is necessary for them actively to try by themselves to get away from the area for periods of time, in order to upgrade themselves in qualifications significantly within the area. Local specialization will often give the older locally-acquainted advisers an edge, because they have been around in such large parts of the local banking system. A tendency therefore exists for the young people to try to get into the head office for a fairly short period, in order thereby to achieve a status which provides them with markedly greater loan-granting authority when they return to the branch network. With this greater scope, they are able to operate with far more autonomy within the local area. In other words, they have more to work with than before in relation to customers and colleagues.

The changes that have taken place within bank work and the greater uncertainty surrounding the job have changed considerably the requirements from the older

employees. However, they will often have been through a large number of different functions in the course of their career, and have gained so much experience in handling matters locally, that it is relatively easy for them to cope with the changes. As mentioned in the introductory section, the three financial institutions included in the merger were created by amalgamation of smaller local banks. Thus, many of these advisers have experience of working for between 3 and 5 different banks which, through changing times, concentrated upon different products and customer categories. In addition, several of them have been branch managers for smaller departments, which has resulted in their moving house several times, but still within a fairly small geographical area (Central Jutland in this case).

Their preparedness for change is thus a fact, but has never been clearly noticeable, either in-house or outside - "it was just something you did". With this preparedness and, at the same time, wide and deep understanding of bank work they have, therefore, been able quickly to find the above-mentioned extra jobs, thereby keeping up with the turbulence of the last few years within the sector.

Responsibility for implementing the branch strategy discussed above is largely carried by this category of employees. By working for this local strategy, they ensure that the basis of experience that is their strength in relation to the customers (and the young advisers) becomes an important part of the way in which the branch operates. By teaching the young people practical understanding at the same time, through the "foal" and trainee schemes, they grasp the principle and understand their strength.

A New Perspective on Training

The setting up of structured training by Glum has generated, owing to a number of changes made internally and externally, increased awareness of the importance of continuous training for both head office, branch and the individual employees.

Continuous training in the bank signifies, for the head office, assured preparedness for change, competence and mobility within the organization. In the branch, local integration ensures, and for the employees continuous training signifies, the safeguarding of job opportunities in the bank or in associated sectors.

As a consequence of this, the training process has developed a third dimension which has acquired increased importance for all three parts. In addition to formal courses and job training, private studies are becoming more and more important in the interpretation of the bank's continuous training.

These private studies consist of internal and external courses which fall outside the series of courses officially required in structured continuous training, but consist also of independent qualification according to the work. For example, specialization within EDP with the aid of home computers and library visits.

Varying pressures upon the form and content of the continuous training thus arise from the three organizational parts . These pressures are expressed in an alternating effect of training initiatives from head office, branch management and the individual employees, who at times supplement one another and at other times counteract one another .

Against this background, continuous training in Glum has become an increasingly diffuse concept over the last few years which, compared with before, signifies greater variety in the view taken of the organization and bank work, depending in each particular case upon where one is within the organization. The trend thus has the effect of relaxing what used to be a relatively conservative view of bank work and banking training. This must be expected to lead to further change in organizational behaviour in the coming years.

TORKEL - FROM INFORMAL TO FORMAL TRAINING

Introduction

During the period from 1985 to 1990 the Danish company Torkel, located on Sealand, changed work organization from assembly belt to self-governing groups by establishing a systematic programme of continuing training for all hourly-paid assemblers. The interesting aspect of this transformation is that Torkel had no tradition for making changes in the organization of production, and the region in which it is embedded does not have a tradition for continuing training. The company is located too far from the vocational schools, and the skilled workers' links to the industrial local environment are very weak. But this transformation evoked considerable interest from the media and was perceived as a model for change.

Torkel is one of the largest manufacturers of hearing aids in the world with 730 employees and a turnover of 355 million kroner in 1991. The overall export share is 90%, and for the Danish production alone approx. 75%. 350 people are employed in Denmark, of whom just under 200 workers are directly involved in the actual production of hearing aids. The remaining 150 are employed in development, sales, marketing, and administration.

The company is wholly owned by a large Danish corporate group with an annual turnover of just under 1,400 million kroner in 1990. The group's subsidiaries all operate in the field of electronics and produce a wide range of products from telephones and batteries to the development of software. Torkel was established in 1943, and the business group in 1977.

The company in Denmark is physically divided into two units with development, sales/marketing and finance in Copenhagen and production in a small town 90 km south of Copenhagen. This split is due to the cheap unskilled labour used in production chiefly being located in the provinces, whereas the specialist audiological engineers who are employed in the development department are based in Copenhagen, where it is possible for them to maintain their close contacts with the research centres of institutes of higher education.

The management group of the entire company which has day-to-day managerial responsibility, consists of the heads of sales/marketing, accountancy/finance and production as well as the managing director. The factory manager is the only person in the management group to have direct contact with production , and thus has responsibility for the production activities being adapted to the company's other activities. In some cases the development manager also has contact with the plant.

The Workforce and the Local Labour Market

The production plant was built in 1968, and today there are just over 200 employees, which makes it the largest firm in the area. Most of the employees are unskilled women, who typically do not have more than seven years of basic schooling behind them, and as Torkel did not engage in any form of specialist training for these unskilled people before 1985, their relations to the world of training were weak.

The labour force in the area is characterized by a large number of unskilled people, contingent on the fact thatTorkel and the second-largest firm in the area, a computer manufacturer, have similar production and a workforce. However, this firm has suffered from falling earnings in recent years and has therefore scaled down production and laid off some of its staff, causing the unemployment rate to rise sharply for unskilled people in the area. Only a few firms are based on skilled labour to the effect that traditional and mass-production firms over the course of time have found it attractive to set up production in the area preserving the predominance of unskilled workers.

Up to the mid-eighties, the production of hearing aids at Torkel was based on distinctly Fordist principles involving assembly belts, where each assembler performed very distinct operations in isolation. One group fitted only loudspeakers, another only microphones etc. This organisation of work had the effect that the assemblers developed an attitude of indifference towards the content of their work and for that matter towards the development and profitability of the firm with the well-known effect that assemblers were only interested in their piece-work rate and pay-check. If they were offered jobs elsewhere at a rate only 25 øre higher per hour, they left straightaway.

The organizational restriction on the assemblers' own initiative was reinforced by the foremen who were employed with the sole purpose of supervising the assemblers to make sure they worked as efficiently as possible, which at Torkel meant the same as complying with assembly guidelines - in other words independent initiative was banned.

Distinct cliques were formed among the assemblers, isolating them from each other and in extreme cases led to direct conflict. This further contributed to the poor working climate, so that they found it difficult to stand together against the foremen and management when unreasonable demands were made with regard to production and working environment. In other words the assemblers themselves helped to neutralise their only possible negotiating tool, solidarity. Neither voice nor loyalty was a possible strategy - only exit was open to most.

But few were selected to rule the rest. Most foremen and middle managers had started as assemblers and as such had either displayed great efficiency or in some other way made an impact on the foremen or middle managers. This had led to their being offered a position as foreman when one left or when production was expanded. Their motive for their becoming foreman was often that they had not got

on too well within their cliques of assemblers. As foremen they could lift themselves out of the suppression the groups imposed on them and into a position where they were "their own master and the master of others". There were two possible ways of continuing their careers after they were promoted to foreman. They could either seek an administrative post as assistant in accounts, purchasing, logistics etc. and in so doing fulfil their dream of "clean" and respectable work, or they could try to become foreman for a larger department, i.e. a department with large numbers of employees.

The Economic Downturn in 1985

After a number of years of good profits, an explosion in cost levels occurred in 1985 and 1986 which was only covered to a small extent by a minor rise in turnover (see table). Management recognized from the interim accounts for 1985 that economic difficulties were threatening the very existence of Torkel.

The poor accounts caused the parent Group to seriously consider closure, as a financial rescue package would be expensive for the Group. On the other hand, the Group had already fed in a large amount of capital, which would be wasted if Torkel was closed.

In million Danish Kroner	1984	1985	1986	1987	1988
Turnover	173	205	179	122	126
Profit before tax	16	-3	-54	-27	6
Assets	180	210	188	187	180
Number of employees	402	462	453	359	237

From Assembly Belt to Self-Governing Groups (1985-1992)

In this situation the factory management took the initiative for a UPS project. The first UPS course was held in August 1985 in an atmosphere of great pressure. The evident weakened position of Torkel made resistance to change less strong than had been the case previously and proposals for improvements in efficiency were received positively by the factory management and the assemblers, without anyone, however, really doing anything about it. The implementation of the proposals therefore necessitated either putting the changes into effect oneself or allying oneself with colleagues who were of vital importance for the practical execution of the changes.

The commitment of a small group of middle managers from the course increased significantly when realizing that the changes they proposed and implemented actually led to marked improvements in flow of production and flexibility. Together with the then factory manager, they drew up an overall plan for the changes they considered necessary to straighten out total production at Torkel. The plan involved improvements in tools, methods, the tying-up of money, stocks, personnel etc. Together they could point to savings of up to 7 - 8 million kroner. The factory manager succeeded after a number of meetings in convincing the rest of the organization and the owners and was at the end of 1985 given permission to put the extensive changes into effect.

A number of different working groups were then set up to look at logistics (purchasing etc.) and tools in order to straighten out the poor quality and profitability. The most significant move for production itself was the round table project. A working group consisting of the production manager, the production engineering manager, the shop steward from the largest trade union (Kvindeligt Arbejderforbund - Female Workers' Union), a foreman and 2-3 assemblers started the first attempts to form self-governing groups. The name "round table" was given to the project to indicate a more intimate atmosphere in assembly work. The title was initially taken so literally that a round assembly table was actually built, but this was found to be impractical in relation to the soldering instruments and the location of component boxes, and it was therefore converted to a rectangular table, although the title of the project was retained. The idea behind the self-governing groups was to create more flexible production and make the assemblers more aware of quality by giving them responsibility for the individual products and thereby reducing the fault rate. The project at the same time contained an objective that the assemblers themselves should assemble the whole hearing aid from beginning to end, be made "personally" responsible for faults and thus correct faults found in the final test on this hearing aid.

Local Continuing Training

The way in which production had previously been organised did not demand special qualifications nor training activities. To realize the ideals of the positive effects of the "round table" it was recognised that there was an urgent need for training. One of the fundamental requirements to be met for the self-governing groups to be able to work at all was that the assembly staff, as well as being open to re-organisation, were also technically capable of coping with the very great technical challenges involved in assembling a whole hearing aid. In early 1986, a separate training department was therefore set up in Torkel which could concentrate the effort on the implementation of the required training activities. As the assemblers had a poor educational background, it was necessary to have the training start at a very basic level. In addition, many of the employees had bad experiences with the educational situation, which meant that they felt very uncertain about going through a similar "trauma" again in adulthood. A great deal therefore had to be done to make them feel secure in the teaching situation, at the same time as they obtained technical benefit from the situation.

When the training activities were initiated at Torkel it became evident that none of the firms in the locality had training activities running. The institutional framework which the Danish vocational schools generally provide for the firms was in large part absent. The nearest school (the Specialised Workers School Specialarbejderskole) was located 30km away and it would be very expensive in travel terms if all the assemblers were to be sent on a course, as planned.

Torkel identified two potential teachers with knowledge of micro-electronics in the locality. One of them was not interested in a teaching job, as he had just started as a self-employed electrician. The other, however, was interested. He had previously taught at the local evening school and had a past career in micro-electronics production. The teacher was so motivated by his interest in teaching in the local area and by a desire to avoid teaching in state primary and lower secondary school (folkeskole) and other educational institutions where he could not work with his specialisation in micro-electronics. A local alliance was thus created in which both sides saw an advantage in close cooperation.

Torkel was not able to simply employ the specialist teacher itself and pay all the costs associated with the instruction but the teacher was able with the Torkel project to seek employment at the Specialised Workers' School 30 kms away from which he could have access to funds to cover the expenses in connection with the teaching. This was possible due to the regulations governing how schools are provided for financially by the State. The school's grants depended on their level of activity, and the project therefore almost automatically created a new position. In addition, the courses at the school meant that the assemblers attending them received a daily allowance, so that Torkel during the course period did not have to pay full wages when they were away from the factory.

When all the administrative arrangements were in place, the training manager rented some small teaching premises on behalf of Torkel close to the plant to solve the travel problems referred to earlier.

The specialist teacher and the production manager then jointly drew up a detailed training syllabus for the next three years, i.e. from mid-1986 to mid-1989. The plan was that all assemblers should follow four basic courses, namely in soldering and assembly, quality awareness, computer science and production, the first of which was to extend over three weeks and the others over one. When the courses for the employees had been completed in 1989, the specialist teacher was to carry on training unemployed unskilled workers in the town at the same time as working at the factory to improve the poor working conditions. The aim was to re-establish the possibility of recruiting locally and allow new recruits to enter production immediately on a par with the other assemblers.

Establishing the Round Table

At the same time as the training programme emerged, the first self-governing group had been established in connection with the project on the "round table". Four assemblers had been selected to take part in a pilot project. To make it attractive, the pay system for this group was changed so that they worked on an hourly pay system with bonuses rather than a piece-rate system, which meant that they achieved the highest piece rate from the old system. In addition, the group was promised a newly developed product where all the parts of the hearing aid could be fitted inside the ear, i.e. a small and complex product. These "incentives" created interest, a very positive atmosphere and some very great expectations of the project from the participating assemblers.

However, when the group was due to start production, two unforeseen problems were encountered. Firstly the development department did not manage to have the small hearing aid ready on the agreed date but was 4 - 5 months behind schedule, which meant that the group had to start with a different appliance. This appliance proved to have so many design and structural faults that productivity was very low. The pleasure the assemblers would have experienced by assembling a hearing aid themselves was missed. On the other hand, they very clearly noted the problems by having to rectify all the faults that could occur in a hearing aid themselves.

At the same time there arose unexpectedly great dissatisfaction over these problems among the other employees, who felt that the group with its advantageous wages, freedom to have breaks when they wanted and even to arrange the work for themselves were disproportionately "pampered".

The initial problems meant that after six months many employees lost interest in the project. Only the group of middle managers who had been on the UPS course were still keen on the project. They were convinced that their project would still succeed and accepted that "changes take time to have the desired effect". They therefore had to be patient and make sure that the other employees did not lose all interest in the project. One of them, realising this, contacted the Labour Inspectorate (Arbejdstilsynet) and the Industrial Health Service (Bedriftssundhedstjenesten) in August 1986 to formally ask them to help with improvements to the working environment, but in reality to generate interest in the other changes that were in progress. The visit created the envisaged effect - interest was rekindled - and it became possible to form another group, so that a total of eight assemblers were now brought together around two tables. At the same time the old piece-rate system was abandoned in all production. Experience with hourly pay in the first group had been so good that hourly pay with individual bonuses was introduced for everyone in production, and the turmoil the different systems of pay had created at the time of the establishment of the first group had been avoided through this change.

Surprisingly, the contact with the Labour Inspectorate proved to have a further positive effect on the change-over one year later. Every year the Labour Inspectorate mounts very limited campaigns with the aim of improving the working environment in general. The view held in the Labour Inspectorate is that if an

effective intervention is to be made in the area of the working environment, a highly targeted effort needs to be made, and with the resources available there is a need to focus on a few specific areas. In 1987 the campaign thus focused on self-governing groups. As the Labour Inspectorate had favourable experience of what they had seen at Torkel, they contacted them in order to use Torkel as a model firm in the campaign. The Inspectorate wanted to produce a film based on Torkel and another firm showing how self-governing groups are established, and in so doing document to other firms the advantages offered by the groups in relation to working environment and production.

The film became a turning-point for the development of and commitment to the project involving the self-governing groups. After the film had been shown on Danish television, and after the assemblers, the sceptical middle managers and the factory manger had seen themselves and their colleagues on television, the inertness they had previous shown suddenly disappeared. They were now all very keen on the project, and all wanted to be part of it in order to share the honour associated with the good publicity Torkel had received through the television broadcast.

Transformation from Belt to Groups

At the end of 1989 and up to mid-l990, the remaining production was changed over to self-governing groups with eight assemblers in each group - i.e. twice as many as in the pilot project. The transformation took place largely without any disturbance to on-going production, one table at a time being built and completed step by step from one end of the shop to the other, so that only eight assemblers were "homeless" at a time. The setting-up and design of the tables were undertaken by Torkel's own technicians. The offices of the technicians and the production administration staff were also converted. Whilst previously there had been closed offices which could not be looked into from the shop, all the walls were now removed and the non-transparent wall looking out to the shop was replaced with glass. Only the production manager and the managers of the production engineering office continued to be screened off, albeit only by glass. The stores, listening room, ceramic room and a few other specialised departments were not included in this physical conversion, however, and today are "isolated" from the shop.

At the same time as the groups were established, batch size was considerably reduced, so that each assembly order was no larger than 25, compared with the batches of up to 500. The position of the assembly personnel in relation to one another was of secondary importance, in that components and ceramic boards in this size of run weigh less than half a kilo, and can be transported in a 30 x 15 cm box.

Staff Cutbacks

Signals were already sent out at the time when the initiative was taken to establish the first self-governing groups that the foremen would be laid off. However, this did not happen until mid-1988 two years after the first groups were formed. The layoffs were chiefly made by the then production manager, and also involved major cutbacks in the other staff groups. In the years up to 1985, as mentioned earlier, many quality people, technicians and administrative staff had been taken on as well as assembly workers, and now had to be greatly reduced. The quality department was reduced from 19 to 5, whilst the technicians were cut back from 21 to 9. Six of the remaining seven foremen who had not found administrative positions elsewhere in Torkel were also laid off. Large parts of the assembly group were laid off at the same time. In this way the number of assemblers was reduced by 50% from around 300 earlier. However, the reductions did not consist solely in compulsory redundancies. Some departments were transferred to Copenhagen at the time of the change-over, where the employees were offered the chance to continue with their work. The problem with the move for the employees, however, was that their travel to work was substantially increased, and many of them therefore decided to hand in their notice.

Because of poor co-operation, the training manager was dismissed, and his department was closed down. All the training activities were then transferred to the production manager, who beforehand had a great insight into the training syllabuses and a good relationship with the local teacher.

The Shop Stewards and the Trade Union Organization

At Torkel, the Female Workers' Union (Kvindeligt Arbejderforbund - KAD) is still by far the largest union in terms of membership, with over two-thirds of the unskilled employees as its members. Most of the remainder are organised in the Specialised Workers' Union (Specialarbejderforbundet - SID) . In the whole transformation process it was generally the shop steward from KAD who made an impact on the management, but for various reasons she was in a very weak position in the negotiations. Firstly the backing from her constituency was very weak, as the aim to obtain as high a wage as possible was all that mattered making it very difficult for the shop steward to negotiate other issues. The other problem was that there were disagreements between the shop stewards of the two unions over the ways and means to be used in relation to both the workers and the managers. This neutralised the strength advantage they could have had by standing together in negotiations and on committees, and neither of the two really made an impact during the period.

It was not until 1990, when the shop steward from KAD resigned and shortly afterwards left, that a strong alliance was formed between the two unions, but still without the workers having demonstrated their clear backing of the shop stewards. At this time it had also become difficult for them to make an impact with their own

concerns. Throughout the period of transformation the middle managers, who had been most active, had taken over several of the concerns which they had been told it was important to work for on shop steward courses and in their unions, such as the working environment.

The latter is probably the most important reason why the shop stewards are in a weak position at Torkel. The members generally find it difficult to see what it is that the shop stewards do for them and their working conditions, although they actually take part in a large number of activities and committees .

The Status of Continuing Training Activities and the Transformation (1990-1992)

The majority of the employed assemblers have today attended the four courses established in 1986, and it has at the same time become a requirement that they should have followed the courses. However, as the table shows, there are still workers who have not yet passed or attended them.

Course	Passed	Planned
Operation of measuring inst.	40	
Computer science (*)	139	18
Epoxy	56	
Introduction to metal	118	
Quality awareness (*)	130	13
Soldering and assembly (*)	135	24
Production (*)	140	8
Light current 1	20	

(* = compulsory courses)

As the table shows, in addition to the four compulsory courses it has also been possible to attend a number of external courses over the period 1987 to 1990, only a few of which are included here (total around 30). It has, however, recently been decided to limit external training and instead expand the opportunities for internal continuing training.

The idea of internal training is far from new. The establishment of the internal groups has expanded the principle adopted prior to 1984, where the assemblers trained new recruits in one to two days. It has been expanded by asking the assemblers to instruct new recruits over a period normally of 3 - 9 months, at the same time as instructing each other when new hearing aids enter production or the production of particular types of hearing aid is expanded. Altogether there are around 60 different internal areas of instruction .

The costs of internal training are at the same time lower than the courses at the AMU Centre. Between 1,000 and 2,000 kroner is saved per week, which is what the decline in production entails when the assemblers are sent outside the firm, since it remains possible to a large extent to maintain the level of production. Although those under training do not produce at the same rate as the instructors, they nevertheless produce a certain quantity.

The AMU Centre

Around 1990 virtually all employees had, as shown, attended the planned four courses, and the second phase of the training ideas from 1986 was launched. These plans entailed firstly building up a system of further training in which the assemblers could start training programmes which gave them training in measurement, and secondly the AMU centre was to start training unemployed people in the four basic subjects which the employees had studied. The idea behind this training of the unemployed was, as mentioned, that these unemployed people consequently became easier to employ in production if it were to be expanded again.

However, this plan never came true. Firstly many of the assemblers felt that it was still too early to start on more training, and they also found it difficult to keep up with the level of instruction, particularly in mathematics and measurement.

The second problem that was encountered was the sharp rise in unemployment in the area, which put great pressure on the courses at the AMU centres, at the same time as the grants were cut by 15% annually. When the training project was started with Torkel, instruction at the AMU centre was free of charge, but with the new cutbacks it was necessary to make the firms themselves pay a third of the costs associated with the courses. In view of this situation, the management has been reluctant to continue the earlier training activities, which has had the effect that the funds which in spite of everything had been drawn to the town returned to the large centres 30 km away where they had originally come from.

ISO 9000

During the same period, an ISO 9000 project was started up on the initiative of the quality manager and the factory manager. The project was completed in the spring of 1992, when the firm became the first manufacturer of hearing aids in the world to achieve ISO 9000 certification. The aim of the project was to safeguard the high level of quality achieved partly through the establishment of the self-governing groups. The quality department over the last two years has had to work on the documentation of virtually all routines, systems and component requirements. This documentation process has also had an effect on the training side, in that training certificates have been drawn up for all employees. The certificate is an A4 sheet divided into two sections, one of which shows the courses attended by the person

concerned whilst the other indicates the types of task the person concerned has to perform.

The certificate is of great significance for the planning of work due to the restrictions this entails for the assemblers' areas of work. It means that, unlike earlier assemblers must not be sent to any task but only to the operations listed on the certificate. In line with the increasing self-awareness and technical insight which the continuing training has given the assemblers, this attempt to keep them to their respective tasks has encountered difficulties.

For the assemblers, the assembly of hearing aids is not to the same extent as earlier just a question of performing the work imposed. There is an increasing trend towards utilising the flexibility the continuing training has given them in relation to most of production. The assemblers can learn new processes themselves far more quickly than earlier, which means that when rush orders come in or bottlenecks occur it is easier for them to help each other, even if according to the certificates they cannot/must not do it.

The flexibility has the limitation, however, that the social groups have led to only a few assemblers wanting to move from one group to another. The unfavourable experiences when the groups were established, when many were forced out, has had the effect that when the assemblers have settled into a group they will be reluctant to move again. In addition, group identity has been created which has the effect that to an increasing degree the other assemblers are assessed in relation to which group they are put in and thus the reputation of the group as a whole. This means that only the assemblers in the groups that function well, or to be more correct those with a good reputation, have a real opportunity to choose freely. It is rare, however, for assemblers in groups that function well to wish to move, because the risk of getting into a "bad" group will mean that it is far more difficult for them to move again.

The Plans For New Training Activities

Now that the training activities have been scaled down for two years, the factory manager has taken the initiative to plan new continuing training activities. The plan is to send several of the assemblers to adult education school (VUS), where instruction is given in general skills such as Danish, arithmetic and English. When there are employees on courses, it is intended that the AMU centre is to train unemployed people to take over the "empty" places at the factory, so that the project promotes employment and production is maintained.

Unlike the previous project, this training project is not directly rooted in the local environment. Neither the factory manager nor the shop stewards, who have formed a close alliance in the area, had a particularly good relationship with the local AMU centre during the training project.

Instead of a local informal system, the new one is based on an only partially local and relatively formal system. Through the Ministry of Culture, which financially supports the VUS centre, and the Ministry of Labour, which supports the AMU centre, the factory manager has entered into agreements which impose on the local schools a duty to cooperate with Torkel. Things have generally changes to a formalized cooperation among the newly appointed production manager, the factory manager and the shop stewards at Torkel together with the departmental manager from a distant AMU Centre instead of the informal cooperation between the local teacher and a training officer.

SECTION 3

SYNTHESIS

Confirmation and Surprise in the Case Studies

The studies on the continuing training activities at Balder, Torkel and the branches of Glum confirm the assertion made in Chapter 1. The institutional system for vocational and continuing training in Denmark makes it easy for the labour-market parties to enter into social contracts on continuing training in such a way that the virtuous circle of continuing training is strengthened, whilst the vicious circle is prevented from becoming active.

Company managers aiming to achieve increasing flexibility can thus attain this objective relatively easily by giving their employees the opportunity to receive continuing training to an increasing extent so that they can integrate the planning and execution of the work and in so doing decentralise the processes of change and adaptation. In all three cases, the firms studied have changed the organisation of labour so that they can cope better with the volatility of the economy.

There is nothing surprising in these results of the study. This knowledge was available and served as a selection criterion when we selected the three case-studies. We chose Torkel because the press had glorified the firm for its re-organisation of work and its continuing training practice. We decided to examine a branch of Glum because we knew that attempts were being made to cope with the merger and the development of the financial supermarket through a change in labour organisation and continuing training. Finally we chose Balder because the firm has already changed over to flexible labour organisation at the start of the eighties, and we wanted to know how this could be developed further using continuing training after the company had been taken over by a foreign Group.

The surprising discoveries in the case studies are most clearly demonstrated if we compare the main impression of our expectations with the main features of our discoveries on the individual case:

Torkel would, we anticipated, become a kind of ideal example. Here was a firm which the press had glorified for its radical improvement of the working environment, which had taken significant initiatives to build up continuing training activities at local level and whose management had declared an ambition to play a political role in the formulation of future continuing training policy. The case also illustrated clearly that it is possible to create completely new local training activities on "bare ground" when the Danish state institutional frameworks in the form of pay subsidies and labour-market training schemes are present. However, what we found was not distinguished by any great dynamism. The labour organisation had been changed over from an assembly-belt concept to a group concept, where the individual worker assembled a complete product. Continuing training had played an important role in the transitional phase between the two forms of labour organisation. The project had been successfully implemented. But a new dynamism and practice which continuously increased and improved the flexibility of the firm and the qualifications of the employees had not been institutionalised. What continuing training activity there had been had largely come to a standstill.

At the branch of *Glum* we had expected to find a new labour organisation which had become caught up in a fundamental paradox. The bank's central continuing training policy aimed to standardise the qualifications of staff in order to increase internal mobility in the bank, which had previously consisted of three different banks each with its own staff policy and training. At the same time there was a need to upgrade qualifications in line with the intention to develop the financial supermarket. Finally the ideology that the individual employee should be able to act as the bank adviser in all areas for a customer made huge demands on the bank's central training policy. This policy would, we imagined, create the dilemma that bank employees would be forced to accord lower priority to the form of training which had previously ensured that the individual bank branches achieved very detailed local knowledge on the creditworthiness of specific customers. We imagined that we would find two types of bank knowledge and employees in open conflict and competition in an individual branch. On the one hand, those who had undergone the new bank training would be characterised by general, abstract knowledge and look for a career which constantly searched "upwards", whilst the traditional employees had attained an in-depth insight into local conditions which was constantly downgraded, firstly as a result of the compulsion to be mobile and secondly because this insight gradually proved unsuccessful in the competition for senior positions. The large bank wants to achieve its integrated internal labour market and career system, whilst the local branches would slowly lose their ability to make precise local credit assessments and otherwise interact with the special characteristics of a locality. The surprise consisted in the fact that the Herning branch and its employees pursued a dual strategy. On the one hand there was continuing training in the central continuing training system of Glum Bank. On the other hand, the employees were deeply involved in local vocational and continuing training initiatives (HD, estate agents etc.). Through these local activities, the individual employees safeguarded themselves against the uncertainty in the financial sector by obtaining broader qualifications, whilst the team of bank advisers assured itself of local integration through its young employees at the local training institutions meeting the young people who would become the bank's future customers. At the same time, this local orientation meant that the locally oriented bank employees were far better equipped and often better qualified in the fight for senior jobs than those who had merely followed internal bank training. The general vocational training system had thus contributed in a surprising way towards solving the paradox that could have arisen. At the same time the varied continuing training activities in an individual local team of bank advisers creates the need for the bank employees informally to give each other continuing training in each others' "specialisations". Although the team is the unit which has the necessary breadth of qualifications, there is a need at the same time for the individual employee to be able to appear to the individual customer as a well qualified "complete adviser". It is therefore necessary for the team to work by the individual employees seeking special knowledge, but for them at the same time to spread the expertise acquired to the other members of the team. In the Herning branch, which cannot, however, be assumed to be capable of generalisation, the bank team continuously integrates knowledge on new financial products, local commercial conditions and a number of circumstances specific to sectors of trade and industry which make its ability to act flexibly continually greater.

The greatest surprise, however, came at *Balder*. Here we expected to find the poorest opportunities for establishing continuous and dynamic interaction between the mutual development of the organisation of labour and continuing training. The firm had been taken over by a foreign company, its formal status and freedom had been curtailed and the financial limits on its operations had been tightened. The firm had nevertheless managed to use the continuing and vocational training system to create a veritable "training factory" with high dynamism which gradually had a modifying effect back on the labour organisation. There was an almost complete virtuous circle between continuing training, flexibility and increasing opportunities for the workers in the labour market. Although the firm had used the surrounding continuing training system in a systematic manner, the limits had been far from exhausted, in that the strategy of the schools would open up an increasing number of opportunities for sewing together specialised and advanced courses in the future and for establishing schemes in cooperation with trade unions and sector associations so that specially trained unemployed people could increase the opportunities of the employees for both external and internal continuing training courses. The cooperation between the local schools on the development of new courses held together with the "flyers" (unemployed people who have undergone continuing training) at the same time in principle contains mechanisms and building-blocks for constructing a welfare-state model based on flexible firms (see introduction), so that the dualism between firms and on the labour market can be gradually reduced rather than increased. Having these fundamental mechanisms pointed out is what we had least expected. The town is an old industrial town and had its institutions formed under strong Social Democrat leadership at a time when the ideals of Fordism and Taylorism played an important role. We had expected that the difficulties faced by Balder with its continuing training policy in relation to the British parent company would be intensified by rigid institutional frameworks seeking to maintain the status quo. Although we had observed dynamic local interaction between firms, institutions and trade organisations in the Herning area and in Salling (see Chapter 1 and Kristensen, 1992), where Herning is known for its "hell-bent" predilection for action and anarchistic local patriotism, the expectations of the area in which Balder is located would point in the direction of institutional rigidity and routine practices. We certainly had not expected the processes of change to have reached such an advanced level that we could start to make out some of the fundamental principles of a welfare version of the new business dynamics. And the institutional transformations that had taken place did not occur as the attempts of isolated schools to modernise themselves alone. They tried to meet a widespread need for continuing training in line with the spreading of new methods of organising labour to a large proportion of the firms in the region. The interactive relationships we studied had, in brief, moved from marginal new departures and innovations to constituting to a greater extent the core of the services of the institutional system.

Another aspect of the Balder case is the surprising relationship between the firm and the surrounding industrial district. The debate on industrial districts (e.g. Pyke and Sengenberger 1990 and 1992) has stressed the "social embeddedness" of life in and between firms. One of the unanswered questions has thus been what would happen if an increasing number of firms in an industrial district were bought up by foreign firms. Balder in this connection offers an instructive example, because it is through this social embeddedness that the firm succeeds in conducting its own

autonomous strategy towards its international group. By using subcontractors in the area, the firm succeeded in gaining far greater market shares within the multinational group than the investment budgets in the firm looked at in isolation would have allowed. The increased market shares and the increased earnings conversely have the effect of promoting the status of the firm within the Group and therefore creating the basis for increased independence particularly with regard to the selection of strategy. Looking at it from the point of view of the industrial district, the Balder case can be viewed as a way in which to organise relations with the international market. In this way the district can gain access to the inter-company markets within multinational groups, which thus come to organise a proportion of the exports of the industrial district.

The case apparently represents a good example of how all the parties can win when the parties in a firm are able to come together to produce a coherent local strategy.

The Role of the Company in the Production of Qualifications: What is a True Educational Environment?

The primary aim of this study was to determine "the place of the company in producing qualifications by means of continuing training and labour organisation", or in other words determining under "what conditions (both internal and external) may a company be considered to be a true educational environment?"

Our case studies offer a direct opportunity for answering this question. At one end of the scale we have Balder and the branch of Glum in Herning, both of which have a compulsory framework for the continued development of the qualifications of the individual member of staff, whilst at the other end of the scale we have Torkel, which has used continuing training to re-organise production and has then downgraded continued development of qualifications to the extent that it only involves the training of new members of staff in existing jobs, which presumably does not qualify for the designation "true educational environment". A comparison of the conditions (both external and internal) could therefore identify some of the factors which determine the roles companies can play in the continuous development of qualifications.

A word of warning is needed concerning such a comparison. What is to be taken as a criterion for regarding a company as a "true educational environment"?

If the criterion should be found in relation to the individual in the workforce of a firm, the answer is complex and differentiated. Charles Sabel (1982, chapter 3.) has pointed out in a brilliant way how the "world views" and "careers at work" of workers in different groups vary not just in relation to the dominant western idea of the middle class but also mutually between "skilled workers" and the many different types of "unskilled" (Sable differentiates here between "workers with plant-specific technical skills", "peasant workers", "would-be craftsmen" and "ghetto workers"). The difference in "world views" means that the different groups of workers have widely differing outlooks on their "careers at work" and consequently one of the means of attaining this: continuing training.

At one end of the scale we have the middle-class homonculus, who is striving for a career, moving from lower to ever higher steps in the organisational hierarchy. There is a true educational environment for such homunculi, where they are constantly provided with an opportunity to undertake an activity which increases their formal qualifications to be nominated for something higher. In brief, they hunt for pegs for a curriculum vitae, so that the chances of "upward mobility" are increased.

At the other end of the scale we have the ghetto worker, whose most important experience is that the life is a mess both in the family and at work. A true educational environment for such homunculi would, for example, be organisations which could treat such people with patience and turn the other cheek whenever they arrive at work too late or drunk, whenever they break rules, etc. until the day they felt they owed a debt to the company and had to break with their belief and expectation that everything is bound to fail. Classic progression are known from criminals and drug abusers who undergo a change and become so absorbed in the process by which they themselves are changed that they try to belong to the social and occupational community to which their previous guides bělong. They therefore possibly adopt the "world view" and career pattern which characterises for example "would-be craftsmen", or develop special loyalty towards their superiors and gain status on a par with "workers with plant-specific skills" with the dependence on the middle-level managers of a special organisation which this position gives.

Between these extremes we find, for example, "skilled workers" and "unskilled, peasant workers". It is characteristic of "skilled workers", according to Sabel, that they view themselves as part of an occupational "community" which they have learned to respect because they know that this occupational community has a vast quantity of technical skills and experience to which they can only be initiated by working constantly on new challenges together with other skilled workers who have experience in special areas. Exercising their trade in constantly new situations is characteristic of their "career at work" and often in themselves, because "skilled workers" as a type in contrast to the middle class do not primarily increase their qualifications in order to achieve promotion. Constant improvement of occupational competence "con amore" is the hallmark "skilled workers" have inherited from the craft.

In some countries, such as Denmark and Germany, the employers have understood how to utilise the proficiency and occupational authority which they gradually build up, in a hierarchical career system, often supported by the vocational training system which has been built up over the course of time. This leaves its marks (as we saw in Chapter 1), in that a middle-class career can now be attained by being enlisted in the ranks of skilled workers. We mentioned how the "middle-class" type of skilled workers compete with the traditional career at work for skilled workers. This competition comes not only to characterise the factory floor but also makes its mark among managers, in that the two "world views" compete for power in the firm. A true educational environment for some "skilled workers" will consequently consist quite simply in their facing fresh challenges in their jobs or being able to change jobs to look for fresh challenges, whilst there is a need at the same time to have

these increasing qualifications formally recognised through promotion, diplomas and formal hierarchical authority.

Finally the path of skilled workers through life is complicated by the variation which consists in many from this group regarding their life as a wage-earner as economic and occupational preparation for life as self-employed person. Friedmann (1988) has provided convincing arguments to back the view that skilled workers in small Japanese firms sell their labour cheaper in order to be as closely involved as possible with the problems they will encounter when they themselves later run a small firm. From this point of view, varying management tasks for skilled workers fit in with the general practice of attaining different skills by undertaking different tasks. Technical and managerial aspects and challenges are integrated into the work and are one of the requirements for an ideal working environment. This integration has classically been undertaken through the strong significance of "masters" or foremen for example at Danish workplaces, and a foreman's job has often been good training for managing one's own firm.

The last group, "peasant workers", exemplifies the groups of workers who have looked for industrial employment, although their life project (career at work) is not in any way linked to industrial organisations. The archetype of this homonculus is the young man from the country who goes to town to work for a few years in order to earn enough money to be able to return to his home area and buy his own farm. A well-known variant is the woman who looks for an unskilled job in order to contribute to the family's savings for a few years, e.g. in order to buy a new house. It is characteristic of this group of workers that the job is an economic means towards a completely different life project, and they therefore as a rule have been completely satisfied with the type of labour organisation which is associated with mass production and Taylorism. Brief training in routine tasks has made it possible in a short time to earn good wages e.g. through individual piece-work, and this homonculus has often been interested in working hard, efficiently and for long hours because his present life is regarded as a brief transitional phase. It is quite difficult to imagine how a true educational environment could be made to function in harmony with such workers. As a rule, a demand for (informal) training in new skills or (formal) participation in internal and external courses will be assessed from a short-term economic viewpoint: am I losing money compared with my usual earnings by being put into an educational situation?

Only in the small number of cases where the industrial education can be combined with his own life project will this homonculus possess inner motivation to learn: the "peasant worker" is certainly willing to attend welding courses, which may make it possible for him in his later life to repair his own tractor. And the female worker without doubt also sees long-term benefit in learning new methods of sewing. However, most unskilled workers also know that it would be quite useful to have a "truck certificate" if they had to look for a new job sometime.

It is part of the picture of the "peasant worker" that this world view can undergo a radical change. One of the most cherished themes in popular literature is the personality crisis that arises when this "worker travelling through" discovers that he/she has been caught in a trap. The dream of owing one's own farm never

becomes financially possible, or the payments on the house put such a burden on the monthly budget that life as a housewife at home has to be constantly postponed. When this realisation comes, this homonculus discovers that he/she is close to the bottom of the industrial hierarchy. Existence there is not only financially unsatisfactory, it is among the most risky with regard to unemployment and industrial injuries. Apathy is a well-known reaction to this realisation; but typical patterns of reaction are also trying to improve one's position either within the framework of a firm by linking one's existence to the use of a particular technology (by acquiring "plant-specific skills") or by going for skills which may be reminiscent of those of skilled workers ("would-be craftsman"). An ideal educational environment for workers going through such a crisis could consist in a set of jobs where it is possible to move from those with low to those with higher requirements for technical expertise and where this movement through the workers" collective meant a gradual movement into the group of "core workers". In many ways the Danish vocational education system is an ideal institutional framework for transforming such a movement at the company level from the high-risk position constituted by existence as "worker with plant-specific skills" to an existence as "would-be craftsmen". These courses at Danish AMU (Labour Market Training) centres makes it possible to codify increasing qualifications as valuable in the general labour market for semi-skilled workers. In addition, there are the schemes for adult apprentices and the opportunities for transfers and upgrading from semi-skilled worker to metalworker.

By differentiating the requirements for a "true educational environment" in this way through the criteria which different groups of workers have for their career at work, we achieve two things. On the one hand we can compare the three environments, which the case studies have exposed with some general criteria. And secondly we perhaps have an embryonic understanding of why an autonomous dynamism has arisen in two of the cases between the training activities and the development of labour organisation, whilst in the third case there was an isolated change.

Summarised Characteristics of the Training Practice of the Three Case-study Firms

As an ideal type, the mass-production company with a Taylorist organisation was a kind of social contract, although not necessarily a particularly harmonious alliance, between, on the one hand, middle-class managers and engineers who were interested in climbing the hierarchical ladder of the large company and, on the other, workers who were interested in earning as much as possible by performing simple routine tasks in a job which was rarely an aim in itself. Taylor did not just develop his management principles in order to integrate heterogeneous "peasant workers" who emigrated to the USA in the infancy of Fordism, in the easiest possible way, he at the same time designed an organisational space where the world views of the two widely differing groups could be united side by side.

However, this ideal model created problems in most western European countries. Important groups in the traditional forms of organisation in the industry of the

countries found themselves in a difficult position, chiefly the group of skilled workers who could not immediately find a position in this space. Traditions and socio-cultural differences between the countries created widely differing conditions for developing strategies which could create for the skilled workers a place in the new industrial ideal type organisation. This is one of the most important sources of the differences in industrial organisation to which the researches in Aix have opened our eyes.

In Denmark the skilled workers were strongly armed for reasons described elsewhere (Kristensen 1991 and 1992). The skilled workers succeeded among other things in making the hierarchy their domain by assiduously using traditional continuing training opportunities to train as technical engineer (teknikumingenior) and by arranging continuing training courses in many of the areas where Taylorism prescribed that method development and planning should take place in separate staff functions. The line-and-staff functions of production departments in brief became primarily the domain of Danish skilled workers, and for the same reason large proportions of the places on the factory floor continued to be occupied by skilled workers. The dynamism in Danish factories, as suggested in Chapter 1 was therefore quite different than would have been expected in the ideal-type version of Taylorism. It was a form of organisation where status and the distribution of authority never had the grades and character of the ideal type form, and where there was consequently less social tension than in most other countries. But it was at the same time an organisational variant, where the groups of workers constantly had to fight to maintain their "world-views" and "careers at work". The traditional craftsman's ethos of constantly learning new aspects of the trade for the trade's own sake always conflicted with the more middle class-oriented ethos of looking for continuing training to move up in the hierarchy. And in this competition, the organisation of the male unskilled person developed the strategy of specialised workers through formalised continuing training systems in order to be able to contend with the skilled workers for precedence on the factory by the skilled workers' own methods: continuing training.

This competition for jobs, qualifications and career paths between the different groups of employees is absent at *Torkel*. The effect of the changed labour organisation has been to remove the layer of middle managers where middle class-oriented employees could see an opportunity for advancement and position. Instead almost a vacuum has arisen between the groups. The positions as managers are filled by external recruitment. The small group of technicians consisting of skilled workers are not threatened by the predominantly female assemblers, and at the same time they have more or less no opportunity of "working their way up" to responsible management positions. They have tasks which are primarily directed towards repair, installation and maintenance of production and measuring equipment, and leave considerations on day-to-day minor adjustments to procedures and routines to the production management. The small production management has very few opportunities of developing its job and career within the framework of the firm. For both groups, new challenges will largely have to be met through external mobility. On the other hand, the characteristics of the female assembly workers have changed. Where passing labour used to be recruited, there is now greater constancy in the workforce. The requirements for a long-term and collective training effort during the transitional period have without doubt caused the

women, who regarded themselves as being employed in the short term (in the manner of the "peasant workers"), to look where the requirements for training were lower. This leaves behind a group of female workers who, in the same way as "workers with plant-specific skills" seek to assure themselves of long-lasting and stable employment. To these women, the upgrading of qualifications has primarily meant having become free of living in the pockets of colleagues who had "fulfilled their ambitions" and to whom they had to "pay lip service" and profess loyalty in order to keep their jobs. At the same time, they have very few career opportunities. There is a well known phenomenon at the firm that work teams that run well and run badly are developed. This mythology is distinct among managers and female assembly workers, and this myth holds sway in a certain "career at work". Assembly workers who consciously pursue a strategy in order to assure themselves of lasting employment in the factory will spontaneously seek inclusion in teams which have a better reputation than others. Another type of mobility requires that the assembly worker goes through an informal training programme each time. The consequence is that the myth is reinforced, so that a "hierarchy" gradually arises between work teams, where some consist of assembly workers who have gradually moved between several teams to the present one with the good reputation. Teams with a good reputation consequently come to consist of people who have broad knowledge and experience of many of the factory"s "plant-specific skills", whilst teams with a poor reputation inevitably consist of employees on the way to a new job in the external or internal labour market. In lay-off situations, the management will spontaneously distinguish between teams where previously a distinction was made between individual workers. A layer division arises between central and peripheral work teams. But for assembly workers who want more from their working lives than just stable employment, Torkel does not provide great opportunities. Previously good behaviour and proficiency could create the basis for a middle-class career. No such long path through the hierarchy of teams creates opportunities for advancement.

At the same time, mobility between teams does not qualify the woman for a managerial job in another firm, as the team hierarchy is not necessarily valued in the external labour market. This impression is strengthened by the fact that Torkel has brought formalised continuing training activity to an end. It could well be imagined that assembly workers with an armful of course certificates could obtain managerial (middle-class world view) or technically challenging (would-be skilled worker world view) jobs in other firms and then start recruiting their colleagues from the teams which enjoy a good reputation. Participation in formalised courses in labour-market training schemes, to which the staff of other firms also came, would not just give formal qualifications, but at the same time also make it possible to create the contacts which are employed when firms recruit new staff. The firm avoided this danger by holding the original courses for the firm's own employees at the time. In its present form, the firm's labour organisation is thus for the most part a well organised "blind alley" for people with further ambition, whether this is occupational or hierarchical. However, the new labour organisation is at the same time an attempt to affect the balance which tends to be difficult to affect for Taylorised companies, that the workforce becomes indifferent about the quality of production. The question is whether the present balance necessitates that the firm is like an island in a sea of unemployment, where the firm can pick and choose

between "peasant workers" and seek to avoid "ghetto workers", although these groups at the same time act as disciplinary threats to those who are employed. Ghetto workers and peasant workers, are thus, as well as "would-be skilled workers" and workers with middle-class ambitions, the groups of employees who have lost opportunities with the new labour organisation of the firm.

The rivalry between different groups of employees over their job characteristics is, on the other hand, a living part of the prevailing awareness at *Balder*. An important motive behind the present continuing training practice has been that the skilled workers wanted to secure work on CNC machines through it. Continuing training has assured them that unskilled workers do not displace them from below, and on the other hand they do not risk being displaced by specialised programmers. However, this motive for continuing training is no longer the primary concern for the individual worker or for the various groups of employees. Continuing training is used instead to become fully autonomous in relation to one's own work, so that the individual workplace comes to function as an independent unit where planning and execution become an integrated whole. For this reason the line and staff functions of the hierarchy are shrinking to a minimum, and a very flat pyramid results. This is to some extent a reflection of the traditional professional ethos of skilled workers having triumphed. The firm today emerges as an ideal workplace for practising the world view of "skilled worker career at work". It is possible to combine the day-to-day work and the continuing training system in such a way that constant acquisition of proficiency con amore is practised. And if the "place" which the skilled worker holds today were to start to lose its attraction and challenge, he/she can start preparing to move to a new place by giving priority to new series of courses at continuing training institutions which equip the worker with formal evidence of the new skill. This skill can be used both in the internal and external labour market. The opportunities for internal mobility are great, because jobs are always advertised first internally, so that a career at work typically consists in familiarity with many workplaces, both in the factory but often also in managerial and coordinating positions.

Formal managers are often recruited from among workers, who in this gradual way have gained an insight into different areas of the firm, and who therefore have a technical background for coordinating across functional areas. The authority exercised by these managers is therefore generally based on technical insight, and the managerial authority is consequently exercised to a small degree by formal competence and to a greater degree through technical dialogue, where holders of workplaces are regarded as the "actual experts". Skilled workers with "middle-class ambitions" to rise through the hierarchy therefore have decreasing opportunities to attain their career at work within the framework of Balder and only on condition that they fulfil their formal position through technical proficiency. Differences in status between managers and skilled workers are minimal in this firm. It can be difficult for externally recruited managerial staff, such as engineers, salesmen etc., to fit into these roles at Balder, and the things that have to be learned in order to find this role will only have very little value, if these managers regard the firm as a step in a "middle-class career". The firm has, for good or evil, become an arena for developing the traditional craftsman's career.

This is also reflected in relation to the unskilled workers. Although a tacit agreement prevails between the elected trade-union representatives from SID and Metal to preserve the existing proportion between skilled and unskilled, this agreement is preserved with some impatience on all sides. Integration of work at the individual workplace has meant among other things that a number of typical functions for unskilled workers have disappeared, including transport jobs, pure operators' jobs and jobs as skilled fitter's mate. The condition to be met for unskilled workers to be able to preserve their proportion at the factory has therefore been that to an increasing extent they have also been able to fulfil a whole, independent function at particular machines etc. With very strong pressure on delivery dates and quality, there is no room for patience in relation to new employees which "ghetto workers" would require. Troublesome labour is already sifted out during recruitment, where only people with a good reputation in the local community have a chance. The impatience mentioned towards the unskilled thus relates primarily to "peasant workers", who are not prepared to go through such a course of training, which is required to become a good "unskilled worker" at Balder. The impatience does not apply solely to the management at the firm. The elected trade-union representative for the unskilled workers expressed irritation at having struggled to motivate unskilled workers for whom an industrial workplace was only a short-term break in a different career.

Looking at it through the eyes of the SID shop steward, it is difficult to defend the present jobs for the SID members and far more difficult to "rise up and threaten" the job areas of the skilled workers without a significant willingness for continuing training on the part of the unskilled workers. Their shop steward has therefore agreed to a personnel management tendency primarily to recruit "unskilled" workers with a skilled background. At Balder a car mechanic is typical of the type of worker who today is recruited for the unskilled job, whilst opportunities are declining for women, fishermen and other types of "peasant workers" who only want a short period in industry. Conversely, "peasant workers" who have been through their life's dream and have tried to improve their qualifications with the aid of continuing training courses have the very best chances of accomplishing the new dreams as "would-be craft worker" at Balder, as they are put into jobs which are not "plant-specific" and can continue to take courses as in the formal system, where they continue to qualify for an industrial career. The firm's management and trade-union representatives give all the support that could be wished for if this dream is to be accomplished in the form of training as an adult apprentice, but on the other hand is restrictive with regard to pure formal upgrading of unskilled workers to metalworkers.

We have called Balder in the case study a "training factory", and the firm comes as close as we can imagine it being possible to come within the industrial sector to qualifying for the designation "true educational environment". As mentioned, this has not been done without sacrifices. The life-career workers who are in straightened circumstances in the firm are those who could thrive together in harmony under a Taylorist regime "peasant workers" and staff with "middle-class dreams". All other groups of workers cannot work at the firm without gradually accomplishing their "career at work". Viewed in isolation, the firm will therefore readily contribute to the development of the dualist labour market, which we warned against in the

Introduction. The active interaction with continuing training institutions, trade-union and sector associations in Horsens, which the case study has revealed at the same time, particularly the scheme involving "flyers" could, however, counteract this trend although never completely. The qualifications which can be achieved by taking part in life at Balder will be of limited benefit if one wishes to live a life as fisherman, farmer or home-based housewife, and the longer the model of the firm develops, the gulf which meets the unsocialised "ghetto worker" will increase. As the trade unions in the town seem to be converging towards the idea that a general upgrading of the qualifications of the workforce is a main ingredient of the local commercial strategy, this will mean that the barriers for both "ghetto workers" and "peasant workers" are raised, and this may have serious consequences with the high youth unemployment rate in Denmark. For unemployed people without organisational backing from a firm or from trade unions, the pressure on the continuing training institutions with the current trade-union strategy has a reinforcing effect on these barriers. Isolated unemployed people will be at the end of the queue of those looking for coveted continuing training courses, whilst these unemployed will often experience the de-motivation they acquire through attending long series of courses for which there is no demand in the labour market. The death of Taylorism seems to have left behind a society with a lack of a mechanism, without "rights of passage" between the active career at work and the state of unemployment. In this particular town it is primarily the social network which today compensates for the absence of "rights of passage", and this mechanism will in the nature of things give "ghetto and peasant workers" few opportunities.

It will presumably not come as a surprise to any Dane that the same groups have few opportunities at the Glum branch. Danish banks have not made any significant use of the American practice of employing "unskilled tellers" (e.g. students, young women etc.). Danish banks have, on the other hand, been an ideal workplace for two other groups of workers. Firstly there are women who wanted a stable connection to the labour market with working hours that make it possible to work at the same time as looking after children. For these women, training as a bank assistant provided an ideal opportunity on a par with an HK (Union of Commercial and Clerical Employees in Denmark) job in the public sector, and this "supplementary income" could often be flexibly adapted to the needs of the family through part-time employment. The second group of workers consisted primarily of men with middle-class ambitions, which could be realised in the bank through upward mobility via bank clerk to branch manager. A reasonably paid job could be combined with significant training opportunities - within the bank and in the Danish vocational training system - and the sacrifices which had to be made by undergoing continuing training in one's leisure time in one's youth would generally be crowned with success so early that the bank trainees typically found their status to be comparable with medium-length technician training schemes and academics.

With the large bank mergers, the group with middle-class ambitions has been provided with large hunting grounds. The banks today constitute a vast territory of hierarchical levels, and with the increased complexity and internationalisation of the financial sector, the "headquarters" has been enriched with a formidable set of complex staff and investigative functions, at the same time as employment in foreign branches has become possible. Bank employees who have started their

careers with training as bank assistant have been put under pressure at the sight of these career opportunities, because new groups have made their entrance into the formerly so successful bank world. Academically educated people have flowed into the specialist functions at headquarters and have changed the game for those with traditional bank training. The field is no longer anything like as predictable as it used to be. The requirements for training are increasing constantly, and it is not certain that a reasonable training effort in the future in the young years will rapidly produce a pay-off. The only thing for certain is that an effort greater than that of the other colleagues is necessary if one is to have a chance. This has been intensified in recent years by the cut-backs in the number of staff employed in the financial sector. In this situation the extra training effort has not merely been necessary for a reasonable degree of "upward mobility", it is now also necessary to run faster to stay in one's existing job. The result is that where female bank assistants and the advancing male colleagues previously existed in a fine balance, the female bank assistants are now being displaced if they do not enter the training and career race of their male colleagues.

These general conditions are one of the reasons why it has been relatively easy to put into effect the philosophy of well qualified bank advisers for both business and private customers.

As discussed earlier, we miscalculated in assuming that this change in behaviour among the bank employees would make local branches the victims of employees who only saw their employment in the branches as a step in a career at work, where vertical necessitated horizontal mobility. The establishment and formation of bank adviser teams can be regarded as an expression both of the attempts of bank employees spontaneously to organise themselves in relation to the requirements for knowledge which now face the bank adviser and as an attempt by branch and local managers to stabilise their organisational skills in relation to the instability which a rapid turnover of career-oriented assistants and clerks gives to a local branch. However, the existential effect on bank employees is important. It becomes possible for some bank employees to create a career, a fixed relationship of belonging to such a team at local level. By pursuing course activities, cultivating knowledge on specific and local commercial conditions etc., they can build up a status within the frameworks of these teams of advisers which ensures that their continued presence in the bank is not necessarily decided by the fact that they have changed workplace geographically a significant number of times. But this compromise between the two previous careers at work in the bank is at the same time the establishment of a completely new type of career. It is highly reminiscent of the training codex of the traditional craftsman. There is a distinct awareness here that cooperation with other colleagues with different areas of competence is a source of one's own further training.

The desire to develop personal and group professionalism will come to act as motivation in itself, and as we have seen in the Herning branch of Glum Bank, the team has been able to commit itself to a significant range of training activities, which means that the group comes to consist of a very heterogeneous range of skills from specialised financial understanding and knowledge of the circumstances of particulars sectors of trade and industry to particular insight into local industries and

firms. Insight which at the same time is collected in a way that ensures the integration of the team in the local community. Ambitious bank advisers who join such teams on the way through will inevitably be judged according to a different standard than that which would apply if the employment hierarchy of the head office ruled supreme. "Free-riders" risk being constrained, either through the other team members preventing the person concerned from having his job credited, as a "step up", or because local managers in a comparison with their stable advisers find the person concerned to be too low for promotion. The team in other words becomes an active organisational unit which can develop a collective awareness, which sets its own standards and develops its own strategies. In Herning this is most clearly demonstrated by the team being able to imagine that some of its members were looking for jobs at headquarters in order to learn some new expertise and gain some informal contacts which could improve the day-to-day work of the team. The team in this case neutralises the "middle-class ambition" of the individual, which would normally whet the career appetite of the adviser who had the opportunity, and replace it with a group-based craftsman's ambition. Where such a local strategy is possible and can succeed, this is without doubt due to such proficiency being rewarded. If the branch achieves good financial results, this will give the manager significant autonomy and negotiating strength in relation to head office. It becomes possible to promote the interests of the branch and impose one's will on more matters than would otherwise be the case. But a kind of informal hierarchy also arises between local branches.

Some branches and their teams gain high status, whilst others have low status, so that it is significantly better to have worked in a profitable Herning branch than a loss-making one. In such cases the situation changes for a local team, which can now recruit staff with whose knowledge one wants to enrich the team, and where those who are recruited are more than merely formally interested in having worked on the site. Such teams can become a true educational environment for two groups of staff, both those who have the traditional craftsman's attitudes and those for whom the middle-class career counts most. In day-to-day work the possibility of differentiating between the two groups is complicated by the fact that cultivation of specialised knowledge for the individual member of staff can both be governed by the development of skills con amore and be the factor that wins the game in the rivalry over the higher steps in the hierarchy. Finally, the special knowledge which local members of staff cultivate is generally classified formally as giving skills on both the local and national labour markets for business managers outside the banking sector. Active membership of a team of banking advisors in the Herning branch for these two groups of staff can be compared with being a citizen in Francis Bacon's "New Atlantic" with regard to the collection, processing and passing on of information but the prospects of the female gender surviving as mothers are less good. They risk being classified - for completely different reasons - as "free-riders", both by the informal population of workers and by the formal managers.

Typical Characteristics of Firms which Constitute a True Educational Environment

As has become apparent from the above, the two most dynamic educational environments have not been implemented by plan or design. In contrast to Torkel where management has implemented a planned change in the organization of labour and then put this into effect partly with the aid of continuing training, continuing training in the other two environments has almost been used by staff to assure themselves of a place in the new type of organization which as a result undergoes constant changes. The dominant common feature of the two organizations is the on-going rivalry which has arisen between two groups of workers each with their own "life projects". To some extent it can be said that the two groups are also rivals in imposing on the other group the life values which their respective world views represent.

In the provisional phase, the two firms point in the direction of the skilled workers having to a substantial degree imposed their life project on those with middle-class ambitions. The autonomy of work which is characteristic of both the holder of the position in the production group and the bank advisor in the team creates very little scope for managers to apply formal authority. Control and coordination in the firm are forced to be exercised through technical authority and those who seek managerial authority over others have to a significant degree been deprived of power. In both firms the staff learn their jobs while they perform them. They can choose to define it more or less broadly as they apply their informal experience, and at the same time have the job codified using elements of formalised courses from the surrounding vocational training system. In both firms they have in this way achieved the possibility of working for their own career at work, which to a large extent open up opportunities in the internal and external labour markets.

In both educational environments it is apparently left to the individuals o integrate the formal and informal qualifications. The potential problems in this are most clearly demonstrated at Balder where some CNC machine workers have apparently found that formalised courses merely repeated what they had already learned in informal "on the job training". Nobody apparently intervenes to set priorities as to the uses to which the formalised training effort is to be put. The choices of training activities which the bank employees make in Herning seem also to some extent to follow from individual wishes. The build-up of skills in the production group and the team of advisers may therefore very well become chance and non-cohesive when judged with from the overall view of a firm. The implications for the strategic options may therefore become very unclear.

From this point of view it is possible to interpret the attempts of the management to make the decentralisation of responsibility more complete at Balder as an attempt by those with "middle-class ambitions" to impose their codex on those with a "skilled worker world view". Managers at Balder can be said today to have responsibility without power, including power to set priorities for training. The efforts to transfer this responsibility to the production group by delegating to the production group responsibility for the financial results of the group's work as well will without doubt

be capable of assisting towards the groups being forced to develop a consistent strategy which makes it possible to set priorities for training activities etc. The last vestiges of formal authority fall with such a change, and groups of white-collar staff and workers are coordinated in a kind of horizontal "village community" organisation, or an organisation similar to professional bureaucracy. The delegation of financial responsibility to the workers will make it essential for these workers to complain to each other over late deliveries and poor quality. They will be forced to look upon each other as costs and to consider whether they themselves or a good colleague ought to be dropped for the sake of the contentment of the remaining group. To put it briefly, some of the tough obligations which have been the costs of achieving a middle-class career are forced onto them. The consequence of such a shift will inevitably be that the rivalry which, we claimed, typically existed in the management group and the population of workers (Chapter 1) in a firm will be shifted to schizophrenia in the production group and to the individual worker. A few questions illustrate how far we are from being able to imagine this new organisation which comes to be the firm and the educational environment: what role does the trade union and shop steward have in such a system? Who is the employer? Do the previous managers now become consultants and therapists when personal and group crises have to be rectified?

These problems at Balder are paralleled by similar ones at the Herning branch of Glum. Here we have not, as yet, found any solution to how the choice of specialist knowledge by the team members is reconciled for example with a portfolio approach in the total mass of loans? What prevents the bank's advisers reducing the unevenness of information in relation to certain sectors at the cost of other sectors without a management trying to create an entity out of the training dynamics of the individual bank advisers?

In the descriptions of the two cases, we have been fascinated by the constant interaction between labour organisation and continuing training which takes place in the two firms, but, as suggested here, we do not believe that a new model in the two firms has found a lasting balance which makes it possible to characterise firms which are true educational environments with well defined characteristics concerning methods of coordination, forms of control, relationships of authority between different groups and a final system of new career paths. The firm's conditions - internally and externally - are still too turbulent to predict the qualification requirements for the various jobs. If, for example, great financial responsibility is "imposed" on the production groups at Balder, the groups will not only have the primarily technical qualifications which today distinguish the members of the group. Financial, marketing, organisational, managerial, psychological and negotiating knowledge must be combined in the same individuals. who possess the technical insight. This combination of a member of staff is most clearly developed in the "apprentice of the nineties", in the foreman who has followed up his skilled training with technologist (teknonom) training, in the machine worker who has learned sufficient programming to become a programmer and who therefore has looked for fresh challenges by being trained in his spare time as business manager (merkonom) and finally as joint shop steward, who through his experience and trade-union courses knows quite a lot about how to preserve the health of

population of workers. But can this training-related workers' aristocracy be used as a model for defining the qualification requirements for positions in the flexible firm?

We believe that the question must remain unanswered for some time to come.

External Conditions for Firms to be able to Function as Dynamic Training Environments.

As mentioned above (and in Chapter 1), one of the internal conditions to be met for a firm to become an educational environment is that a certain rivalry exists between the groups of employees in obtaining a position at the workplace for oneself and for one's group. This rivalry had been put out of action at Torkel, partly because there was a vacuum or no-man's land between different groups of staff.

This is not only due to factors within the firm. Workers at Torkel generally have to go 30km to attend continuing training courses. Workers who harbour training and career ambitions thus not only have to put a burden on their families and their leisure time by attending courses. There is a significant amount of time for travel. In the other two towns high representativeness of possible vocational training schemes has been ensured in local politics. There is a rich educational environment apart from institutes of higher education. People and groups therefore have ready access to institutional support in their battle to obtain the "position" referred to in the firms. In this local community rich from the point of view of training, training activities are not something that have to be invented for the first time. People can content themselves with imitating parents, friends and family. It is a traditional element of life.

Although, as we have explained, a dramatic and turbulent restructuring of the form of organisation in the firms is taking place at Balder and in the Herning branch of Glum Bank, the people involved certainly do not see the great difference between themselves and their fathers who previously followed a technical engineer (teknikum-ingenior) training course or a business manager (merkonom) training course. In the locality of Torkel such behaviour has generally been associated with an "exodus" from the local community. In these communities this layer of the middle class and workers with broad occupational ambitions emigrate to obtain a place often at workplaces in Copenhagen. They leave behind the immobile, who are satisfied with and know their place.

This without doubt means that obvious opportunities are not being taken. Herning Textiles School developed from less (see Kristensen, 1992) than the temporary department at the AMU Centre in the vicinity of Torkel which was set up in connection with the continuing training initiative.

Today the two towns in Jutland have institutional relations and contacts with what is going on in the area of labour-market training, and in the area surrounding the firm the local schools are competing with each other to obtain or define for themselves as great a role as possible within this range of opportunities. This rivalry

is without doubt beneficial for the local community viewed as a whole to create as many provisions as possible. This institutional rivalry is also lacking in the town of Torkel. However, what characterizes the two towns of Jutland is that the rivalry between the schools is balanced by coordinated cooperation with a view to preventing the rivalry destroying the overall prospects of the local communities. The fact that such destructive rivalry will be met with rejection among the local public alone will have a regulating effect in relation to the schools, but in the two towns of Jutland this relatively passive mechanism has been reinforced by institutionalised regulatory practices. In Balder's home town the trade unions play a strong role in establishing this cooperation, just as local politicians may be on the governing boards of the schools.

How these coordinating mechanisms have avoided making the local vocational training schemes a resource in the hands of notabilities in these towns and thus limiting the training opportunities for what there was an instrumental need at a given time in history is, however, a mystery which we reluctantly but necessarily leave unanswered. It is without doubt this lively activity which is today of great significance for a need for continuing training not only having been created because the labour organisation has been changed; at the same time the labour organisation is being redefined, because different groups of workers with new training schemes are seeking to have their qualifications made useful by inducing small changes in the labour organisation. It is in this way that the institutional system is influencing and reforming the informal qualifications which the firms would develop quietly, so that these informal qualifications have practical significance in what is understood by formal qualifications in the larger system. And it is this very feedback that is inactive in the case of the firm in Sealand.

A complex and differentiated local training system directly gives the individual an opportunity to combine the opportunities of different institutions in a special personal profile. This experimental application of the "system" from active individuals can be said to have covered some of the unique needs for the build-up of skills which helped make possible the interesting organisational innovations at Balder and in the Herning branch of Glum Bank. The trend towards the schools now starting systematically to cooperate on providing courses which combine knowledge for example on technology, economics, culture, language and law suggests that the vocational training system in this locality will also be active in the future in solving some of the organisational paradoxes we have indicated here. These new frontiers may become pioneering for ability in a community to create managers who without formal authority have to manage through an ability to combine areas of competence. In addition, Balder's home town has already gone a long way in easing access for the unemployed to the new interaction between firms and training institutions through the "training shop" and the "flyer scheme". "Rights of passage" have been created for workers who have decided to leave their careers as "peasant workers" and "ghetto workers", all that is lacking are the "rights of passage" which would cause these groups to give up their original "world views".

The interpretation of our case studies in this section points in the direction of a worsening of the situation for these marginal groups of unemployed. In Balder's home town the unemployed skilled worker could not only use the vocational training

system to increase the likelihood of obtaining employment through individual initiatives. The courses for which there is most demand form the side of industry are automatically closed to the unemployed. The vocational training system, by accepting the unemployed onto courses for which there is low demand, will in this way gradually demotivate the unemployed person. Only in cases which by the nature of things must be few in number does the system actively take hold of people and training schemes and prepare them to be "flyers". A gradual, individually based process which slowly involves such unfortunate people in the dynamics of the new industrial regime, thus appears to be absent. Something similar can be said about the branch of Glum. This firm has without doubt previously been an ideal place of work for people who reconnoitred with a view to a possible future career in industry. This easy access route has now been closed, and instead there prevails far greater stability, which without doubt makes it easier to be an employee but difficult to be unemployed.

These circumstances make it difficult to belong to the marginal groups of industry, "peasant workers" and "ghetto workers". For peasant workers this is reflected by the fact that unemployment among women is around 25% higher than among men (9.3 and 12 .1% in 1991). The situation remains totally wrong in the labour market for the unskilled, in that the average unemployment rate of semi-skilled workers in 1991 was as high as 19.9%, where that of women was 32.4% whilst that of men was only 17.6% (Statistical Yearbook 1992, pp. 170-171).

Most Danish readers of the present report will no doubt have been surprised that the term "ghetto worker" has not only been used, but has been repeated throughout this concluding synthesis. The expression is closely linked to the American context, where the term has been distilled and Sabel has refined it. The term does not have the same roots rich in tradition in a Danish context. The reason why we nevertheless use the term is that more than any other term it illustrates the fundamental re-socialisation process which has traditionally been promised by industry during boom periods. And this task is becoming more and more difficult to cope with as the demands put on the workforce have gradually increased. The barriers against entering into the dynamics we have illustrated are becoming greater. At the same time the risk and consequences of failing are becoming more serious for the individual person. If one slips in relation to working life, it can very easily have consequences for one's private life and vice-versa. With high unemployment, less is needed to send an employee who is going through a personal or physiological crisis out into the darkness. Our hypothesis is therefore that the dynamics under these conditions do not merely make life more difficult for, but on the contrary help produce "ghetto workers". This hypothesis is confirmed by the fact that gauged in terms of marital status, unemployment is highest for the divorced, where both men and women top the statistics with an unemployment rate of around 16% (ibid).

Technology and Markets or Local Environment?

From a traditional technological/organisational point of view, it could be claimed that the difference between Torkel and Balder, for example, is not due solely to the dynamics and rivalry between groups of workers internally and between trade unions, schools and local politicians externally. Torkel has an extremely well developed labour organisation in comparison with similar electronics firms, whilst Balder is a machine factory which has the technology and the workers typical of mechanical workshops. The two cases differ because the two firms represent two different types of technology. But is this correct? Could Balder not have very easily developed into a mass-production component firm if the organising forces at the firm had not been present? It was not through a master plan that the firm chose to produce components in many models and many variants with a short delivery time. This strategy was a compromise between many competing forces under conditions of external ownership, which certainly was not any different from Torkel. For reasons which we cannot pursue, the management at Balder decided to fight to provide scope for staff ambitions which existed in the firm, by trying to define for the firm an appropriate place in changing societies. In the Preasto firm the management seems to have defined its role as adapting the firm to the strategic aims the owning group of companies had.

In the Herning branch of Glum Bank, the management seems in spite of all the odds to have chosen to regard the local bank branches as something reminiscent of an independent savings bank, which has the advantage of being able to strengthen its local service to customers with the aid of services which membership of a large bank makes possible. And in this philosophy the training activities of the employees are factors which pull in the same direction. We believe that it would be very easy to find a branch of Glum Bank where the management did not define its branch, its task and the expectations of the training activities of staff in the same way. Perhaps a probable counter-case to the Herning branch could be found in the southern part of Sealand for reasons which we have already touched on.

Such differences are of decisive significance for the capability of a local area for self-generated development. We must leave the question whether the difference in attitude is due to differences in outlook or cultural differences, but in the two dynamic examples of continuing training firms it is an undoubted fact that as long as they exist in the same way and according to the same philosophy, they contribute actively to increasing the value of human capital in the area in which they are placed.

The motivation for such an effort is naturally greatest for managers who are not on the way to a new geographical destination in the search for new positions but can find opportunities worth aiming for in the local environments. "Social embeddedness" can thus be assumed to be both cause and effect of the behaviour of these managers.

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